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### THE RECRUITING QUESTION.

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Friday, 5th July, 1901.

Field-Marshal the Rt. Hon. Viscount WOLSELEY, K.P., G.C.B., G.C.M.G.,  
in the Chair.

I DO not think that I need apologise for the subject which has been selected for this lecture,<sup>1</sup> because I think we must all be agreed that this question of the supply of recruits for our Army is of such vital importance at the present time that it may be said to deal with a great national emergency. If the efficiency of our Army and the safety of the Empire are to be maintained we must possess the means of securing a constant and ample supply of first-class recruits, and the question, therefore, naturally arises at once, "Do we possess such means at the present time?" In my opinion, undoubtedly we do not; and I think it cannot be denied by anyone, who has a knowledge of the facts, that the present condition of recruiting is anything but satisfactory. I think, perhaps, the most conclusive evidence on this subject is afforded by the report of the Inspector-General of Recruiting, which was only issued a short time ago, and which may be purchased at any of the official booksellers for the modest sum of eightpence. I cannot recommend any better expenditure of eightpence than in the purchase of this book. It is most instructive reading. Before going on to the matters dealt with in that report, I should like to call your attention to a list of headings of this lecture which has been distributed among you, and in order to allay any natural apprehension I should like to say at once that I have no intention of going very exhaustively into all the subjects included under these headings. Indeed, if one had a week in which to

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<sup>1</sup> This lecture was delivered as an extempore address, and is in no sense a prepared paper.

lecture it would be hardly sufficient for such a purpose. But I understand it is the settled custom of this Institution to issue beforehand a sort of cheque on account on occasions of this kind; and, therefore, I have jotted down these headings, not so much with the idea of discussing them all, as of suggesting certain points on which I hope succeeding speakers will touch, and which may lead to some kind of useful discussion.

Turning now to the report of the Inspector-General of Recruiting, to which I referred just now, I base my case mainly upon it, because I think the evidence which it gives is naturally the best. From that report we learn, amongst other things (I will not quote from it very extensively), that the physical standard for recruits for the Regular Army was again lowered last year, and yet, in spite of this, over 30 per cent. of the recruits accepted were below the reduced standard. We also find that the percentage of rejections "for want of physical development" has steadily fallen from 21·6 per cent. in 1896 to 11·1 per cent. in 1900. During that same period the annual number of desertions has risen from 3,357 in 1896 to 6,378 in 1900. These are rather disheartening figures, I think you will agree, and the accompanying opinions of the Inspector-General of Recruiting are hardly more satisfactory. He says:—"Recruiting for the infantry of the Line cannot be considered satisfactory, as in spite of the impetus given to recruiting by the war, the actual number of recruits enlisted for the infantry is 241 less than in 1899. The increase in the number of infantry battalions has, therefore, in spite of the reduction of the standard of height by half-an inch (*down to 5 feet 3 inches*), not been met by an increased influx of infantry recruits." And again:—"The situation from the recruiting point of view cannot, as a whole, be considered satisfactory. In spite of the war, recruiting for the infantry has not met the demand."

This is the official opinion of the highest responsible authority, and I do not think it is likely that he would err on the side of pessimism. I think, therefore, we must accept the fact that the present-day recruit for the Regular Army, especially for the infantry, is by no means satisfactory. The recruiting requirements for the future, moreover, are considerably in excess of the recruiting requirements for the past. I find that the average number of recruits required in normal years before the war was about 35,000 per annum. The War Office now, I understand, estimates that the annual requirements in the future will be 45,000 men per annum; and consequently, if the state of recruiting was unsatisfactory before the war (and indeed during the war in some respects), how much more unsatisfactory will it be when the war is over, and when the country is suffering the inevitable re-action from martial enthusiasm, and when the normal sources of supply have been already overstrained! A certain amount of attention has been drawn in the House of Commons and elsewhere to the large number of recruits obtained during the war. But I must point out that whilst that number is large, all recruiting returns which are based upon the experience of war-time are necessarily misleading, and that if they were taken as a basis for future calculation they would only lead to optimistic conclusions which would not be borne out in time of

peace, which is, after all, the time for which we have to legislate. Then, apart from this question of the number of recruits that will be normally required in future (that is to say, 45,000 per annum), there is also a most serious matter to be considered, and that is, that immediately on the conclusion of the war there will be an immense number of men released from service in the Army, men who are now being held although their normal time of service has expired. Whilst I have endeavoured to obtain official information as to the numbers by which the Regular Army will be below strength on the conclusion of the war, I have been unable to get anything in the way of official figures. At the same time, I have made my own calculations, and I am very glad to see from the debate in the House of Lords last week that my calculations were quite independently duplicated by Lord Wolseley, and that we have his opinion to the effect that no less than from 90,000 to 100,000 men (I put it as high as 100,000 men) will be required by the Regular Army in the first twelve months after the conclusion of hostilities. That is an enormous demand to make upon the country, and I do not think there is any doubt that it will not, and can not, be met under existing conditions. This, then, is a very serious outlook, and we must find means to tackle the problem of obtaining this enormous number of men. My primary contention is that the present inducements held out to recruits are not sufficient, not sufficient even to secure men in sufficient quantity, to say nothing of the proper quality. As regards the mere deficiency in numbers, that, I must say, I am little concerned about, because I am one of those who do not think that it greatly adds to the military strength of this nation to have a vast Army on paper. I consider that it would make both for efficiency and economy if the present strength of the Regular Army was reduced by all ineffectives now in the ranks, and by that means the King's service would be well rid of a great number of men who, however estimable in their domestic qualities, are certainly not efficient soldiers, and never can be made effectives. It would be far better that we should dispense with the services of these men, and utilise the money thus saved for improving the emoluments and conditions of life of the remainder, in order that we might be able to induce a better class of men to enlist. I do not think it is desirable that the system which has obtained in the past of keeping up a large portion of the Army as a sort of kindergarten, or cadet corps, should be allowed to continue; and I hope very much that, even if we do not succeed in altering the pay of the Army as a whole, that something will be done to save money by reducing these ineffectives. This brings me to the very important question of the quality of the individual recruit.

In discussing this subject one is always met at once by the objection that it is in some way a "libel" upon the British soldier to insinuate that the recruit of the period is not altogether satisfactory. There was a lecture given in this Institution about two years ago by an army medical officer who had very large experience in examining recruits, and he ventured to set forth as clearly as he could the exact quality of the recruit then being obtained. His remarks on this subject were apparently received

with great disfavour by the audience, and he was roundly abused for having perpetrated some kind of libel on the British soldier. But it seemed to me that no arguments were brought forward which in any way traversed the deliberate statements which he made, and the whole course of the discussion was obscured by irrelevant eulogies of the prowess of the British soldier in the past. No one is more proud than I am of the deeds of the British soldier in the past, and indeed of the deeds of the British soldier at the present time; but it does not seem to me that there is any reason why it should be libellous, or should be a reflection in any way upon the reputation or the performances of the British Army, to draw attention to the large proportion of undesirable material that is brought into the Army through the terms offered by the Government not being satisfactory. I think, on the contrary, that it is a patriotic duty to point out the undesirable nature of the majority of these recruits, in order that the present state of affairs may be bettered, and the whole tone of the Army improved. Of course, I know there is another objection which is always raised when one talks about the boys that are now being enlisted. People say, "Yes, but see how well these boys have done in South Africa." I have no doubt that any boys who went there did their best; but I want to point out that in most cases the boys did not go. The boys were left behind, and their places were taken by the reservists, the old soldiers who had served their full time with the colours, and who went out to the number of some 80,000, to replace those boys who were unable to go to the front, either from being under age or from other ineffective causes. I do claim that the best work done in South Africa was not done by boys but by old soldiers, reservists, who do not at all represent the average recruit. They represent merely the cream, skimmed off, past legions of boys. We know from the returns of the Inspector-General of Recruiting that only 47 per cent. (less than one-half) of the recruits actually enlisted ever serve their full time and pass into the Reserve, and it is to the remaining 53 per cent. that I am now referring. They are the undesirables. Of course, we know that we must get a large number of good men amongst the number who enlist under present conditions, and it is those men who served their full time, passed into the Reserve, and who were passed back again into the Regular Army, that have been the chief means of upholding the honour of the British flag so successfully during the present war. The question of what should be the physical standard for a recruit is a very difficult one, and I am not prepared to press the point, as to the desirability of getting a very big man. I know it is a favourite contention nowadays that physical development is of ever-diminishing importance in modern warfare; and as long as a man is thoroughly strong, sound, and intelligent, doubtless that is the case. We no longer have to fight with battle-axes, and it does not become a mere question of physical strength in defeating one's enemy. But if the importance of physical development has decreased, surely there is no disputing the fact that the importance of intelligence has greatly increased. In order to secure this intelligence, which is so important in modern warfare and which has been acknowledged by the present



Secretary of State for War as being absolutely necessary, we must go to a higher class for our recruits. All my argument is directed towards that end. From my own experience, which is very limited, of modern warfare, I was enormously struck (as no one could fail to be who was in the Spanish-American War), by the overwhelming importance of intelligence in the private soldier. From various causes, which I do not wish to go into now, the American organisation was extremely defective. The staff work was bad, there was no organisation, and for various reasons the whole brunt of the campaign fell upon the private soldier and the junior regimental officers. It is no exaggeration to say that if it had not been for the superb intelligence and the great power of initiative of these men the campaign in Cuba, so far from being successful, would have resulted in serious disaster. What I saw then convinced me so thoroughly, that I do not think any other arguments could dissuade me from believing it, that intelligence is of the first importance in the class of recruit that we ought to get. Therefore, I come to my fundamental contention, which is this, that the intelligent and mature man of good antecedents is not only incomparably the better soldier, but is also much the cheaper in the end. I have already said a good deal in the Press and elsewhere about the quality of the American soldier, and I do not wish to go into that point at any length here, but I would merely remind you that the American system of recruiting resembles our own very closely in that it is a purely voluntary system. The chief difference, apart from the inducements offered, is that the American Government do not have to make such strenuous efforts to scrape up recruits as we do in this country. They never employ recruiting sergeants, they merely open a recruiting office, which is, as a rule, a more or less attractive and respectable-looking building, instead of being a dismal structure in some obscure slum, and they merely announce that they are prepared to receive recruits. In consequence of the inducements offered, they get so many applicants that they are able to reject four out of every five men who come forward. The result is that the standard of men that they accept is enormously high, and I do not think we need try to attain so high a standard as theirs. Owing to their system they get men who average as follows: 5 feet 7½ inches to 5 feet 8 inches in height, age 22 years 7 months—which is a little too old, perhaps—and they reject over 80 per cent. of the men who come forward. The remainder they examine most closely, demanding some kind of certificate as to their past character, and they are most particular in seeing that no man of shady antecedents is allowed to pass into the ranks. And how do they achieve this result? Is it by the tremendous amount of money and advantages that they offer to these men? No, simply by a very small increase upon the terms that we ourselves offer. The rate of pay that they offer to the recruit on joining is 1s. 9½d. a day, and at that rate of pay, and with progressive increases afterwards according to the length of service, they succeed in getting as many men as they choose of this high quality. I think if you contrast the results of their system under which they are able to reject four men out of

every five with our result of being compelled to accept three men out of every four, you will admit that there is some ground for my contention that if the pay of the soldier were raised we should probably tap a more desirable class.

Having said something about the American recruit, I now come to the British recruit.

Can anyone contend that the class of recruit that we are now getting, for the infantry especially, is even moderately satisfactory? I say no, most emphatically, although I know there are commanding officers who do not make complaints about the class of recruit they get, and who doubtless will not make complaints in the future. I think that is owing to the gratifying fact that the British officer is, as a rule, very loth to make complaints, and he is always willing to make the best that he can of the material that comes to his hand. I, however, feel bound by no such reserve, and I am constrained to make the most vigorous complaint about the class of recruits we are at present getting. I do not think that anyone who will go to any of our recruiting stations at the present time—for example, to St. George's Barracks—only a few hundred yards from this room, will contend that the class of recruit that is now coming in is the kind of man to whose hands we ought to entrust the military defence of this mighty Empire. Of course, there are people who say that these boys will grow and make efficient soldiers—that is a very seductive argument; but what I wish to point out is that although these boys undoubtedly do grow, a large proportion of them disappear within the first year or so of their being enlisted; and therefore whether they grow, or whether they do not grow, the State gets no value out of them whatsoever. I will quote actual figures on this very point, and I have taken some which I thought might appeal particularly to the present Secretary of State for War. I paid a visit to Guildford during the Whitsuntide recess, and examined the dépôt there, in the very heart of his constituency, and these figures are taken from that particular dépôt. I found that during the last year (1900) 376 recruits joined for the Regular Army. During the year 53 were discharged as either being under age or inefficient in other ways, and 39 deserted, so that there was a total wastage of 92, or nearly 25 per cent. Thus nearly a quarter of the recruits disappeared within one year after they had been got into the dépôt, and the large amount of money spent upon them represented an absolute loss to the country. Then with regard to the Militia. At this same dépôt, 567 recruits joined—31 were discharged as being under age or inefficient in various respects, 123 deserted or absented themselves from embodiment, the total wastage being 154, or about 33 per cent. Heaven knows that the residue was bad enough. But here were 25 to 33 per cent. of men that were brought in at the public expense, who disappeared within twelve months without the country having a single halfpennyworth of value out of them. These men had been enlisted, fed, dressed, drilled, housed, and then disappeared, never to be heard of again, unless possibly to re-enlist, as is frequently the case, at the next dépôt, where they go through the same process.

I say that a system which produces those results is necessarily bad, it is indefensible, and that being the case, surely it is necessary that we should use every means in our power to get it altered. I was very much interested in reading an account of a discussion at a previous lecture in this Institution, of some of the devices used in order to enable inferior recruits that came forward to pass the standard. A medical officer who had been employed largely in this very work of passing recruits informed members of this Institution that it was a common practice to fill up these boys with cold water before weighing them, in order that they should be able to pass the test. This method of procedure may no doubt be very gratifying to the extreme advocates of temperance, but at the same time I do not think it tends to promote military efficiency, and I do not think we should have to carry our recruiting down to such a point as to have to call in these artificial aids.

Then another case was brought to my notice the other day. The War Office refused, after the matter had been referred to them, to accept a man for the A.S.C. who was certified to be a thoroughly skilled butcher of first-class character, and absolutely sound, because he was "one inch too tall." If you put those two things together, refusing men of high qualifications because they are "too tall," and then accepting boys weighted up with cold water, I think we must admit that there is something wrong with the system. I am sure if the Commissioners of Chelsea Hospital could give evidence as to the cases of men who come up before them for various physical disabilities, they could throw a very instructive side light upon the medical inspection, and the class of recruit that is now taken in the Army. The number of cases of valvular disease of the heart and other such long-standing complaints, which are found in recruits of one or two years' service, is very surprising. I am afraid there is no doubt that the present system of medical inspection is extremely unsatisfactory. I do not say it is the fault of the medical officers; it is not. The success of the recruiting officer or the medical officer depends largely, in the eyes of the authorities, on the number of recruits that he is able to obtain. He is patted on the back for the number he produces, not for the quality, and that in itself is surely a vicious system. I would suggest in place of it, the system that obtains in the American service. When a recruit sent in by the recruiting officers arrives at the depôt, he is again examined by a competent Board. If he is found to be in any way deficient, either in physique, character, intelligence, or anything else, he is sent back, and the expenses of his enlistment, and his travelling expenses, are charged to the officer who enlisted him. I think that system might be introduced into our Service with advantage. I do not say to the advantage of the recruiting officer, but to the advantage of the State.

If then we admit, as I hope we must do, that the present system is bad, we now come to consider how it should be remedied.

It is no good, of course, to indulge in mere destructive criticism, and therefore I propose to make a few constructive proposals as to how our system could be improved. I think far and away the most important need is increased pay, but I will deal with that later, and I will begin with

the question of improvements in the present conditions of life. That is a point which I am thankful to say the present Secretary of State for War seems to be taking up sympathetically, and therefore I do not wish to press it further than is necessary, beyond saying that I do not altogether approve of his proposals to introduce cubicles. In the first place, I think it is impracticable, and then I am not sure that it is even desirable. I think that the system which is found quite sufficient for the superior class of men that they get in America, *i.e.*, to give a little more floor area, a little more space, in the barrack rooms, and to give separate rooms in which the men could dine, would be quite sufficient, when added to the other ameliorations of the soldier's life. Of course there are some of these ameliorations which are not quite so easy to define, such as the removal of certain petty restrictions and mere pipe-clay discipline, which however suitable in the past, are altogether out of touch with the increased intelligence and independence of the working classes of the twentieth century. I asked a high authority on the subject of the working classes, Mr. John Burns, whose name is familiar to most of you, to tell me what he considered were the main objections that the young British artisan had to the prospect of a soldier's career. He said that undoubtedly their chief objections were these: they objected, in the first place, to the petty and useless restrictions that were placed upon them after they enlisted; and, secondly, to the constant and tiresome harassing by young non-commissioned officers. In fact, to use his own words, "You will never get the young British working man, the artisan, to join the Army until you stop messing him about!" That, I think, is a very important point, which may be dealt with without the cost of a single additional penny, except possibly in the direction of increased pay to the non-commissioned officers.

Now I come to the question of increased pay, and under this head we naturally have to consider the question of "stoppages." I am particularly glad that those who have been dealing with this matter and trying to get the stoppages removed, received some ray of hope last week, leading us to suppose that the Government is ready to consider the advisability of abolishing this grievance. If that is done, one of the chief objections to recruiting will be at once removed, and in the meantime I will say no more about it.

Now I come to another important point. We were informed in the House of Commons by the late Under Secretary of State for War (Mr. Wyndham), in the course of a debate, that, taking it all round, the soldier's pay was universally admitted to be equal to 30s. a week. I did not learn from him how he arrived at that amazing figure, and I was somewhat perplexed at hearing, in the House of Lords shortly afterwards, the late Secretary of State for War (Lord Lansdowne) say that there was no disputing the fact that the British soldier's pay at the present time was equivalent to 15s. a week. There is a considerable discrepancy here, and I do not feel able to decide between the two, although I think probably 15s. a week is quite as high an estimate as it is proper to make. I do not wish to go into the point at any length, because I want to bring my

remarks to a conclusion as soon as possible. But my main proposal, which I have made on several occasions, is that the rate of pay of the private soldier, that is to say the private soldier of the *proper quality*, should be 1s. 9d. a day to start with. Whilst I know there will be contrary opinions with regard to this, I wish to put that forward as my deliberate opinion, based upon my American experience, and I have no doubt that if we were able to give that rate of pay we should have a superior class of men coming forward. Of course there is a great diversity of opinion on this point, especially as to how much it would cost the State. I personally believe that in the end it would cost the State little or nothing, because by having a higher class of men we should obviate the appalling wastage which at present costs so much money, and by obtaining a higher class of men in the ranks we could do with less men. The Financial Secretary to the War Office placed the cost, I think, as high as £5,000,000 per annum. But on going into the House of Lords, I heard the late Secretary of State for War place it at only £2,000,000 per annum. Here again there is a great discrepancy; and it is quite possible that if these figures can fluctuate so greatly in official minds, possibly they might fluctuate still further and come down to practically nothing.

But whatever rate of pay we offer, and whatever inducements we put forward, it is of paramount importance that we should keep faith with the soldier, that we should tell him just what he is going to have, and that he should then get it. One of the main obstacles to recruiting at the present time is not only that we do not offer enough, but that we do not keep faith with the soldier; we do not give him the terms that he thinks he is promised. Therefore I do think it is of the utmost importance that the working classes should be relieved of their present impression that if they join they will be "done" by the Government. Whatever we offer them, however small, they should get free from any kind of deduction, of course except in case of misconduct. At present the saving of a few pennies here and there is effected only at the risk of exasperating the rank and file, and not only the rank and file, but the working classes, which form the future material of that rank and file. The strongest argument that can be brought forward against this proposal to increase the pay of the Army is that it *might* not prove effective. That is to say, if you should offer the higher rate of pay you might not get the better class of men, and yet you could not take it back again. I admit the force of this argument, but I will say at once that I do not propose to increase the pay of the soldier all round. My procedure would be this: I would state the qualifications necessary for the soldier of the future, and then if men of these qualifications came forward I would give them the increased rate of pay, possibly after they had passed their drills. If they did not come forward I would not give them the increased rate of pay; and if you still took the present inferior class of man, I would give him 1s. a day and no more. There is no necessity whatever to give the higher rate of pay indiscriminately all round: you would merely give it for the higher class of article. Some people say you could not have men serving at two different rates of pay; but I cannot see the

force of that argument. In any case, whatever terms we offer, we should keep faith with the soldier, and so far as possible we should remove those conditions of recruiting which make it, I do not hesitate to say, a great strain upon the self-respect of a man to go through the process of enlistment. That perhaps is a strong statement, but I think no one who has seen the process of enlistment at most of our recruiting stations will deny that it is not a pleasant process for a young and self-respecting working man to go through, and no effort should be spared to make the process of enlistment as easy as possible. As a first step surely we should have our recruiting stations attractive, club-like buildings, in main thoroughfares, where the intending soldier might find consideration and comfort, and might be led to suppose that there is a certain attractiveness in a soldier's life. That is a very simple device, well known to every publican, who makes both the exterior and interior of his public-house as attractive as possible, and on the measure of that attractiveness the success of his trade very largely depends. That, I think, is an obvious matter which should be promptly attended to, and all these dismal recruiting stations that we have throughout the country should be abolished and sold, and the necessary money expended upon establishing attractive recruiting stations in all the main centres of population.

There is one point which I think has not received the attention it deserves, namely, the possibilities of Colonial recruiting grounds. I do not wish to go into that subject very fully now; it is much too large a question; but I throw it out as a suggestion in case somebody will take it up afterwards in the discussion. It seems to me that there is an immense amount of raw material in the Colonies which is at present not utilised in any way for Imperial purposes, and yet might be if the authorities were to take up the subject. Of course I know the main obstacle at the present moment is the lowness of pay offered to the private soldier; but I may point out that if my proposal of raising the pay to 1s. 9d. a day was carried out, that would be sufficient to attract a large number of recruits from the Colonies. In support of this statement I may say that in Canada the pay of the soldiers in the "Permanent Force" is 40 cents a day, or 1s. 8d., and there is no difficulty in getting a sufficient number of first-class men to join. Therefore, if we fixed the pay at 1s. 9d. a day we might, by that means, establish a uniform rate of "soldier's wage" throughout the Empire, which would in itself be a very important step in the development of Imperial Federation. But, as has been pointed out very forcibly by Colonel Dooner, after all, the best recruiting agency is the contented private soldier on furlough, and it does seem to me that we ought to develop that means of getting recruits. If we could send the private soldier back to his home to see his friends, and he can tell them that the conditions of Army life are attractive, and that he is well done by, there is not a doubt that the recruiting problem will be solved at once. That at present is not the case. We have not only to contend with the inability on the part of the private soldier to draw an attractive picture, but we have also to contend with an active counter-agency. I have been informed on excellent authority, that undoubtedly



one of our chief difficulties are the so-called "anti-recruiters," who frequent the public-houses and the meeting places of the working classes in our large towns and elsewhere, men who have probably been discharged from the Army for misconduct, but who, whatever the cause, are active anti-recruiting agents, and do everything in their power to prevent men joining the colours. The only way in which we can defeat those men is not by recruiting officers or recruiting sergeants, but by contented private soldiers who can tell an opposite story. And if we improve the conditions of the soldier's life I think he should be able to tell that story. But I would give him an extra inducement by making it worth his while pecuniarily. I would offer the private soldier 5s. clear for every good recruit that he succeeds in bringing, and if that were done, and even if the whole of the recruits of the Army were obtained by this means, it would only mean an expenditure of £10,000 a year, an amount absolutely not worth considering. I know the official reply to that is that there is an obscure paragraph, somewhere in the Royal Warrant, to the effect that a soldier will be given something on producing a desirable recruit. But we all know that in practice the soldier is not aware of this; and even when he does bring a recruit, the amount that is ostensibly offered is so whittled down by the fee to the clerks and others that it is not really worth his while to exert himself.

There is another very interesting question, which possibly General Geary will touch upon, as to the supply of recruits from military schools for boys; but I do not feel competent to go into that myself at the present time.

And now to sum up. I think it must be admitted that the only alternative to increased pay for the Army and increased amelioration of the conditions of life, is conscription. While I know there are many who think that conscription would be the more desirable alternative, we are bound to recognise facts as they are. We must recognise that we are living in a country where the working classes hold the balance of power, and, therefore, that conscription for the Regular Army is a political impossibility, however desirable. Any Government, I do not care how strong, that proposed to introduce any measure of conscription, would be obliged to appeal to the country; and would inevitably be beaten out of its boots. Its successors, moreover, could only come into power by specifically pledging themselves against conscription; and therefore, however desirable the thing may be in theory, I say that in practice it is a political impossibility. It is therefore, idle, I think, at the present time even to discuss conscription, and it rests with the Government to say what alternative means they propose to adopt in order to improve the supply of recruits.

In conclusion, I will only say that I have no desire at all to see any increase in our already enormous military expenditure. Nor am I actuated by any merely philanthropic desire to better the conditions of life of a deserving class; but I do most strongly object to the inept waste of the public money under the present system, which, I maintain, is absolutely bad. Indeed, it is proved to be bad by its results, and it

cannot be allowed to continue, for as long as it exists it is simply imperilling the efficiency of the Army, besides entailing enormous waste of the public funds. There is no mystery about the subject of recruiting. It is not a technical question in any way, and I wish the general public would realise that it is a purely business problem which contains no factors which cannot be understood by any man or woman of ordinary business ability. Until it is mastered, and until the whole problem is dealt with effectively, the "dry bones" of the Government's present scheme cannot be "clothed with flesh and blood." The solution of the recruiting question is an indispensable preliminary to any effective scheme of Army reform; and however we may differ as to the changes that are desirable or necessary, I think we can at least agree that this problem is one of immense importance and urgency. Indeed, it will press itself to the front without any encouragement on our part, with ever-growing insistence, and when the war is over it will necessarily engage the attention of the War Office to the exclusion of almost everything else. In the meantime, I feel it is most important to familiarise the public with this problem, because, after all, it is they who will have to decide between the only possible alternatives of increased pay or conscription, and I cannot for a moment doubt it will be the former of those alternatives—the alternative of increased pay—that they will eventually select.

I am afraid I have spoken longer than I intended. I must ask your indulgence for having done so, and I must particularly thank you for the attentive way in which you have listened to my remarks. I only hope that the discussion which may follow will be more worthy of the occasion, and bring out several points on which I have been unable to touch.

Lord ALWYN COMPTON, M.P. (late 10th Hussars):—I have only a very few words to say, and it will take me a very few moments to say them. It is rather in support of what has fallen from Captain Lee. I think we all feel, whatever views we may have taken in the House of Commons on one side or the other, that the question of recruiting is absolutely at the root of the whole difficulty; and however good the organisation may be, however good the equipment may be of the Army, that after all it comes back to the question of the material—that is, of the men that we get; or to put it in other words, the cook cannot cook if he has not the material at hand to cook with. It seems almost presumptuous to put forward a proposition of this description in such an audience, and I should not do so for a moment were it not for the fact that apparently, as far as we have been able to gather, the Government have shown an absolute disregard of what I have said. The scheme of Army reform which was produced by Mr. Brodrick met with a certain amount of support and a certain amount of hostile criticism, and I think I may say that, broadly speaking, the reason why it found a large number of supporters when it came to a question of voting was this: that, in the first place, those of us who had taken an interest in Army matters in the past had always held this view; we had always asked that someone, either a Cabinet of some Government or the Secretary of State of some Government, should lay down exactly for what purpose the Army was required, and what was the principle on which it was organised. The present Secretary of State and the present Government have for the first time, as far as I am aware, done that under great pressure from the country, that is to say, they have laid down a particular standard, to which we have to work up. Whether that standard is too high, or whether that standard is too low, I am not prepared on this occasion to say;

that certainly was the first principle to which we gave our support. I think that feeling, as many of us did, and do now, that really the whole question in the end resolved itself into a recruiting question; we assumed, as I think we had a right to assume, that the Secretary of State for War, guided by the best advice he could obtain from the military authorities, had some very good reason for thinking that in the future the recruiting would be maintained at its present rate. I am not going into the question of what the recruiting was before the war; we all know that it was in a very unsatisfactory condition. Since the war the recruiting has been at a higher figure; and although some of us had doubts in our minds, and have still, whether that figure will be maintained when the war is over, at the same time we assume, and it was not an illogical assumption, that the Secretary of State for War and the Cabinet considered that the recruiting after the war was over would continue in the same satisfactory state that it is in now. If the Secretary of State had risen from his place in the House of Commons, and had laid down this proposition, and had said that he believed the present rate of recruiting, which we all know has been good (because naturally men, whenever there is any question of fighting, are prepared to enlist)—if, in fact, he had said: "I believe that after the war is over that that will continue, and I do not propose to offer any further inducements for men to recruit in the Army," and upon that assumption had produced his scheme, I think he would have been received with derisive laughter. As it was, we believed that he had something up his sleeve—that he had very good reason for thinking recruiting would continue on the same satisfactory basis as it is now. But we are beginning gradually to find out that that is not the case, at least so I gather from speeches which he has made, and from speeches which were made during the debate in the House of Lords. We are now realising that he was not going upon any particular foundation when he asserted that recruiting could be maintained as it is at present. I suppose, like all people who build castles in the air, he thought he foresaw under what conditions the plans would be carried out, and he refused to face the facts—the broad, hard statement of facts which were brought forward in the House of Lords by the Duke of Bedford and by Lord Wolsley himself—the broad, hard statement that after all the question of recruiting resolves itself into a question of a daily rate of pay. My own very small experience in that matter, besides what I learned when I was in the Army, was perhaps useful to me in that respect during this last campaign, because I raised a body of men of my own. I had the paying of them, and when I left the country, and a great many of them went into civil and other employment, I had the experience of what took place. They were a particularly good class of men—certainly a higher class of men than you generally get as recruits in the Army—and what I found, and the experience I gathered myself was, that the whole question always resolves into: "What is going to be my daily rate of pay?" On the question of what exactly the rate of pay should be for the soldier I do not propose to enter. I have often discussed this question with Captain Lee, and although I agree with him that a daily pay of 1s. 9d. would attract recruits, I should like to see something in the nature of a sliding scale. I should like to begin the boy's service with a very much lower rate of pay, and offer the man a substantial rise in his wages as he gets older and older. It seems to me that in civil life we always know what occurs. Upon this question of recruiting depends the whole organisation of the military forces of the Empire, and is a question which the layman must consider, for I have always asserted and held that this is a question on which we have a right to express our opinion, because the layman himself knows exactly what the difficulties are. I have only one other word to say, and it is with regard to the future. We are now committed to the scheme for good or for evil. We have given it our support, and of course it will have its chance. I have this suggestion to make with regard to recruiting, and I think Captain Lee did not touch upon it. It has always occurred to me that our method of recruiting young men into the Army is somewhat antediluvian. It is a method which has obtained without much modification for some fifty years. We all know what it is. A recruiting sergeant hangs about the corners of streets in the towns and country, and tries to rake in as many men as he can into his net, and the whole

nation looks on askance. It seems to me that something might be done in that direction. I see no reason whatever why the great departments of State should not co-operate heartily with the War Office in the question of putting the method of obtaining our recruits on a national basis. I see no reason why every civilian official throughout the length and breadth of the land should not be instructed to put himself in communication with the military recruiting authorities. And to go further still, I see no reason whatever why the lords-lieutenant of counties and the county councillors or mayors in the towns should not in the same way form committees and be in touch with the military authorities of a particular district, and so, as I say, put the whole question of recruiting on a national basis. Once that has been done, of course the War Office have to play their part. The War Office have to see that the recruit, in the matter of pay, is not imposed upon. What Captain Lee has just said is absolutely true. The recruit goes into the Army and expects to get something which he never receives. We all know perfectly well that the method by which we attract our recruits into the Army is exceedingly unattractive. It would be intelligible if you offered the recruit a very high nominal rate of pay, and then from that high nominal rate of pay made certain deductions. Or you could understand it if you offered him a low nominal rate of pay and said "that is the actual sum of money you are going to receive." We do neither, and it seems to me that a great improvement could be made in that respect. I think it is most necessary that the whole country should appreciate that fact, that we all of us have our part to play in this matter of recruiting. The nation itself has its part to play, because, after all, when the Services have done with the soldier, or with the sailor, it is the nation's business to welcome him back into civil employment and give him every opportunity of making his way. The military method of getting the recruits while the whole nation stands, as I have said, looking on askance, and rather condemns it than otherwise, seems to me to be an impossible one, and one which is capable of great change on some future occasion.

The Earl of WEMYSS, A.D.C. (late 7th Middlesex V.R., London Scottish):—I labour under the difficulty of having heard very little of what the lecturer has said, but I have his list of headings here, and as far as I understand he has made some remarks with regard to the inducements and obstacles of enlistment. The whole question of enlistment for the Regular Army is a question of the inducements that you give to the men. The nation must be prepared to offer inducements to get good and efficient men, and, as I heard Lord Wolseley say the other day, they must get the best article at the market price. What the lecturer said with regard to puny boys who were filled with water to add to their weight, receiving less pay than the full-grown useful article, was common sense, and it seems quite right and reasonable. One thing has struck me as very strange, namely, that while the lecturer says that the British mother plays a part in the obstacles to enlistment, he says nothing about another obstacle to enlistment in the Army, which also begins with an M, but it is not the British mother: it is the British Militia. Not a word has fallen from the lecturer of the competition that exists, and has existed now for years, which was never intended by our military system, between the Militia and the Regular Army. They are both competing in the market for voluntary recruits. To hear people speak in the House of Lords and Commons, or anywhere else, on Army questions, one would suppose there was no such thing in the country as a sound military system; for no one who writes or speaks upon the subject ever refers to its system. Yet we have a most perfect military system, though it is now in abeyance. Then the lecturer said that the question of conscription is at present a political impossibility. I am very glad to have here, in the United Service Institution, a very able Member of Parliament who has been in the Army, and I want to know from him what he means by conscription. If he means men being taken from their employment by compulsion in this country, and being exported to India, the Cape, Bermuda, or anywhere else? Why no one dreams of this.

Captain LEE :—I mean any form of compulsory service.

Lord WEMYSS :—As regards the Army ?

Captain LEE :—Yes, or the Militia.

Lord WEMYSS :—By what right do you say it is an impossibility as regards the Militia ? Has it been tried in our time ? Have you, a Member of Parliament, ever said a word to your constituency about it ? No ! Because you distrust the people, and you libel the English nation by the course you and public men take upon the question. As a Member of Parliament, I constantly spoke between 1841 and 1883 in favour of the existing military system which is not enforced. Why ? Because Parliament and the Government wrongly believe that they will lose votes, and they distrust the people by so doing. I have never yet spoken anywhere, in this Institution, in Westminster Hall, the London Scottish Hall, or in any other place in England or Scotland, and advocated compulsory Militia service that I have not had the heartiest response, and found that the people were quite prepared to take the matter up. Two years ago I sent out a circular to all lords-lieutenant, chairmen of county councils, and chairmen of Quarter Sessions asking two questions : "1. Do you think that the present state of things as regards armaments and defence should remain as they are ?" In answer to that question, 75 per cent. said "No." As a preface to the second question, I stated what the present English law was, and said "Do you believe, this being a constitutional English military system, compulsory home service, which is an Englishman's birth-right, and which he was born to, that the English people if they were put to it by the Government would accept a modified form of compulsory home service ?" The modified form that I suggested was that every youth when he attains the age of 20 should, if he is not serving in any other form as a Volunteer—that "rubbish," as we are called in another place—or in some other form under the crown, be liable to take his chance of the Militia ballot. Two to one answered "Yes." A most able book has been written by Mr. Shee, called "A Briton's first duty." He refers to me as having done my best, not in favour of conscription, but in the form I have suggested, and gives some most valuable facts. I believe what I have suggested is amply sufficient. At any rate let it be tried. I have been in public life and in Parliament for a good many years, and I have never known the Government of the day going to Parliament and saying, "We tell you on our responsibility, whether it be for the Navy or anything else, that such a sum or such a measure is necessary," that the House of Commons dare not refuse. To put our military system on a sound footing it is necessary that you should accept the existing military system and that the ballot should be enforced, the ballot being an alleviation of general compulsory service and not a hardship and injustice. It is not a political impossibility. The House of Commons dare not refuse their assent, if told by responsible ministers that compulsory service in the Militia Home Defence is necessary for the safety of the Empire and our homes.

Dr. T. MILLER MAGUIRE, LL.D. (late Inns of Court Volunteers) :—I am sorry to differ in any way from my friend Captain Lee. But, first, I must congratulate him on his presence here again after his experiences in another part of the world, although I differ with him in company with the noble lord who has just sat down. I am rather sorry he complicated his excellent case by introducing the question of conscription. I should like to ask him—does he mean any form of conscription, direct or indirect, small or great ? Captain Lee appears to object to it as an evil thing, in whatever form it appears. I agree with the noble lord on the question of obligatory military service. The people of this country think that conscription means conscription for the Regular Army, or a universal military service like that on the Continent. In the year 1803 obligatory military service was enforced for the Militia, and a clause was brought into the Military Service Act to this effect—that while this system of compulsion was obligatory, no one need be compelled to serve, provided he was a Volunteer. The result was an enormous accession of strength, which would amount, if applied to the present population, to about 1,400,000 men. The measure was borne quite harmoniously and cheerfully ; the people did not object at all, and the Volunteers did very well. I am sure my friend Captain Lee would not object

to that kind of modification of obligatory military service—that each man should be either a member of the Navy, or of the Regular Army, or of the Militia, or of the Volunteers. With regard to the Regular Army, I am sorry to say I agree with every word that Captain Lee has said. He ridiculed the system under which one man is rejected because he is too big and too good, and the next man is accepted because he is not big enough or good enough. My friend here, Colonel Graves, said he would like to put a little whisky in the water with which the recruit was filled up, and perhaps the recruit would agree with him. Under the present rules as to weight I have had to fill up not privates but cadets. I am one of those people who are called crammers. For some years I was a crammer in this sense, that I had to fill young gentlemen who wanted to get into the artillery by giving them, in addition to their ordinary diet, three pints of boiled milk a day, and it was exceedingly useful and successful. They got fat enough to pass, and then they trained down to get thin enough to ride. In a book called “The Armies of to-day,” which the Chairman wrote a few years ago, he said that in any other matters we were efficient and businesslike, but in regard to the Army we were extremely unbusinesslike and inefficient. If, as the lecturer says, we will not have obligatory service for the Regular Army or for the Militia, we must have properly paid soldiers; for we are not going to allow our Empire to fall to pieces for paltry economy or lack of men, for not being willing to pay men enough to fight for us, or for not being able to devise some system whereby we can get good and sound men, men to represent as officers the intelligence as well as the physical energy of the upper better classes, the middle classes, and the educated classes; and, as privates, men representing the bone and sinew and common sense of the people at large. If we cannot get them, either by compulsion or by paying for them, or by some other businesslike method, our Empire must fall. I thought it rather an ignoble thing to do to go on posing as a critic and expert in this matter without putting the thing to a practical test, and, accordingly, in a part of the kingdom with which my friend is acquainted, I took the bull by the horns and enlisted as a private soldier in Her Majesty’s Regular Army, with the object of seeing for myself exactly the situation. I remained for a short period a private, till I became thoroughly versed in the life of our soldiers. Therefore I know practically all about the method in which a private soldier has joined the Army, and the way he has been treated by officials of all kinds, and I have been at pains for years to keep up my knowledge. I have always been pleased to meet with and learn from the rank and file. I assert, without fear of contradiction, that for a generation the War Office has lied hard to private soldiers and robbed them. I know all about their rations and their associations. I know about their gallantry and their good nature, and their objection to complaint. There may be some trouble arising from young and incompetent sergeants, and the kind of “messing about” to which the lecturer refers, but I must pay a tribute to the admirable tact and self-control and excellent character of the majority of the non-commissioned officers of the British Army with whom I was brought into contact, whether I was in the ranks or associated with them since in my general duties of different kinds. They are the most admirable class of men all told that you can possibly find. Can you find finer-looking or more excellent men than in a cavalry regiment? The War Office and the public are betraying the Army and themselves when they throw aside these excellent men when their time is up. I would insist, if I had any authority, on a good career being opened to every man who held the position of sergeant for five years or more. They should put before every non-commissioned officer an inducement to be a better gentleman than he is already, and that is saying a good deal in the case of many of these men. With regard to the pay, it was said that the soldier obtained 9d. a day. I was rather “cute” for an ordinary recruit. I followed the advice of Shakespeare, and put some money into my purse, and I found it extremely handy. I could not have lived on the pay at all, and the rations were of little use to most of us. I never got my 9d. once. I actually got a tanner about five times, but 2d. a day, after stoppages, was a common allowance after a hard day’s work. A large number of British soldiers never drew their nominal pay. I went round Salisbury Plain and consulted sergeant after sergeant, and private



soldier after private soldier during the manœuvres, to see if, perchance, there had been an alteration for the better since my time, and I found the whole thing was one elaborate mystification of sophistries and humbug of the private soldier from the start of his work to the end. The War Office gave 6d. with one hand and took away 7d. with the other. Why the very Imperial Yeomanry have recently been robbed wholesale by Aldershot chicanery. With regard to rations, I am amazed at Lord Lansdowne's remarks. He said that the rations of the British private soldier were amply sufficient for a recruit. Occasionally I used to try them. There is not a young man of 18 who ought to try to live on the rations as issued. Of course, if they have been increased lately by little additions in a variety of ways, the older men may get enough to eat; but I would certainly advise any parent who is sending his son to enlist in any regiment to put some money in that young private's purse, or he won't be very strong or well fed as a recruit. I have here a document which says that the sailors of the Fleet are not sufficiently well fed. I would advise you to read this article in the *National Review*. Now Regular soldiers, as far as my experience goes, are not better fed than the sailors of the Fleet. But the sailors of the Fleet are not at all so well fed as the paupers in the workhouses. Is not that a scandalous thing, that those on whom we rely for our honour and our wealth, and the future of our children, are not so well fed as paupers, a large proportion of whom merit no indulgence? I believe that the ex-War official who said that the soldiers of England were as well fed in the Army (where they are bound to give their lives to the service of the country) as the humbler working classes of Englishmen, either deliberately mis-stated the case or knew nothing whatever about it. I contend that the soldiers and sailors of England should be at least as well fed as the scavengers of Kensington Vestry, with whom I have had associations for some years. Therefore I come back to my original contention. The whole system is wrong. You have lied to every man who enlisted for twenty years. There are two ways of lying—one is speaking a lie, and the other, and far worse, making a lie. When you tell a poor man you are going to give him 9d. and he only gets 2d. he is annoyed, naturally. The lecturer said that 33 per cent. of the military constituents of the Secretary of State for War deserted. I wonder that 95 per cent. did not desert. I wonder that anyone stays in the Army who can leave it. In any other walk of life but the Army, if you tell a man he will get a complete kit, and he only gets half or two-thirds of a kit; if you tell him that he will get 9d. a day, and he only gets 2d.; if you tell him that he will have plenty of food, and he does not get half enough,—how long would the man stop in employment? During the first month of my own soldier's life—I have had the proof of it—but for the money in my purse I should have fared badly. I know that the men have not received anything approaching to the advantage for the getting of which they are induced to enlist—they do not get their full rations, and they do not get all their clothes, or their full pay. If we want good servants we must play fair with them. We must, if anything, give them more than we led them to expect. I entirely agree with Captain Lee that a summary end should be put to these stoppages in which the War Office delights, and which are a curse. I am very proud indeed to have had any opportunity of speaking for that noble, heroic, and most patient and most cruelly-treated class of men—our private soldiers. I have stories to tell which would make the War Office clerks "blush—if blush they could—for shame." Stoppages, except for wanton damage or misconduct, should cease at once; barrack damages should cease, the kit should be absolutely free—even one charge of one shilling means the day's finance of a private utterly lost. No young man, either in the Navy or Army, should be obliged to spend one penny a day on absolutely necessary food. A colour-sergeant is, I honestly believe, at least as good a gentleman as, and is far more useful than, a War Office clerk; but you will all admit that he is as good and valuable in every way as any clerk of the second division of the Civil Service, and he should be treated and pensioned just as well. Any contractor or dealer of any sort who defrauded a soldier of any of his allowances or adulterated his supplies should be mercilessly punished. The barracks should be at least as well managed as the best artisans' dwellings. Notice should be given of the cessation of

stoppages. The truth should always be told to the letter. Bad characters should be removed wholesale, and the pay should be at least what Captain Lee suggests. Seven good men are together worth at least 60 per cent. more between them than ten bad ones. Lads who are specially unfit should get a little less than now, and men who are specially fit should get very much more than now. The Army should be made so popular that dismissal from its ranks would be regarded as a very severe punishment. The status of the soldier should be regarded as higher a great deal than that of any clerk or artisan. Then you will soon have a competition of good lads and good men also for the ranks—especially the non-commissioned ranks—and you will avoid obligatory service and get rid of the present paltry devices and expedients for filling up the ranks of the Regulars, which are frauds on the public and the Army. The sooner you have some form of obligatory universal service for the Auxiliary Forces, the better for every family in the kingdom.

Colonel Sir EDWARD HUTTON, K.C.M.G., C.B., A.D.C. (late King's Royal Rifle Corps):—I have listened with the very greatest possible interest to the exceedingly able address given us by Captain Lee. I must cordially and heartily congratulate him upon the manner in which he has treated the subject before us. I do not think, however, that the lecturer has dealt in a sufficiently adequate or exhaustive manner with the financial difficulties in relation to the recruiting question. The large increase to the military Estimates which is involved, will not entirely be one of pay. The lecturer has very rightly pointed out that the increase of pay will give us a superior class of recruits to fill the ranks. In this I quite concur. And although the Army might under such circumstances be numerically weaker, it will relatively be far stronger and far more able to act its part as a more highly-trained and more efficient body of troops than our present Army. The additional expense involved is not altogether one of pay. The following anecdote will illustrate my meaning:—The Quartermaster-General of the U.S. Army, about twelve years ago, came down to Aldershot, bringing me a note from our Chairman to-day, the late Commander-in-Chief, requesting that I would show him the camp, etc. In the course of our round we visited the tents in the South Camp, and with some pride I walked my distinguished guest through some of the best and the cleanest of the men's tents. After inspecting with much surprise some half-a-dozen, my visitor turned round to me, and with a look of blank astonishment said:—"Sir, do I understand you to say that you put your British soldiers into such places as these?" "Yes," I said, "we do; these huts have been occupied by our men since the days of the Crimean War." "Well," he replied, "all I can say is, that if we tried to do it in America we should soon have no soldiers at all!" In other words, if we are to get our money's worth in a higher class of man, the State must be prepared to give better treatment to her soldiers. The State must mete out more generous terms, must improve the soldier's quarters, make his surroundings attractive, and study his comfort. The soldier must be allowed more freedom, and some of those restrictions so irksome to well-disposed and respectable citizens must be abolished. As regards the Army rations and the soldier's food, very great improvement has taken place within the last few years, and I do not agree with my friend Dr. Miller Maguire in saying that the rations at the present day are insufficient. I do, however, consider that the cooking and the manner in which the soldier's meals are served admit of very much improvement. In fact, the surroundings of the soldier and his treatment must, so far as possible, be placed upon the level of that to which the American soldier is accustomed. The lecturer referred to me on the subject of recruiting and of raising troops for the Imperial Service in our Colonies. I have had some considerable experience of these points in Australia and in Canada, where it has been my duty to study this matter. The raising of regiments for Imperial service, serving under the Imperial Government, is a very much more difficult question than appears at first sight. It amounts, in fact, to calling upon the Colonies with self-government to contribute a share of men to the Imperial military system. Our self-governing Colonies at present have no voice in the Imperial policy, in Imperial political issues, or in the control of Imperial affairs,

and it is not to be wondered at if they should consider that such a demand would be unconstitutional. There is, however, a very strong feeling in our Colonies in favour of taking their share in the defence of the Empire, but this question raises points which do not come within the scope of this lecture. I must now take my friend the lecturer to task for a serious omission. He has dealt extremely ably with this question of pay, but this question of pay and the improvement of the Regular Army are a part only—a very important part, but still only a part—of what so many of us have been looking forward to for the last 10 years, and that is the creation of a military system which shall be suited to the modern strategical requirements, and to the recently developed Imperial instincts of this great Empire of ours. The additional expenditure entailed necessitates, as I have stated, a reduction in the numerical strength of the Standing Army. Therefore you cannot consider this question of raising of the pay and improving of the status of the Regular Army, apart from the question of how you are going to provide the numbers necessary for the offensive and defensive protection of our world-wide interests. I know the lecturer has very carefully considered this question. I know also that a very large number of British officers who are serving at the present day, have strong views upon this matter; but we officers who are now serving, find ourselves in a very difficult position as regards this and similar questions, since they entail, to a certain extent, though we may not wish to do so, the criticism of things as they exist, and of the Government of the day. The lecturer, however, in his position as a member of the House of Commons, could perfectly well have treated this question, not from the point of view of the pay of the soldier only, but from the larger and more important view of the defence of the whole Empire. The result which the gallant lecturer would produce by this raising of the pay and improvement of the status of the soldier would be to provide an Army of a very high type, but numerically weak, an Army which should be capable not only of guaranteeing law and order throughout the Empire in ordinary times, but also of finding the instructional staff and the whole of the general staff for an Imperial Militia system which would meet the requirements of the defence of the Empire as it stands at the present day. I might safely assert from personal knowledge that for a great Imperial Militia system upon lines such as I indicate, the great self-governing Colonies of Australia and of Canada are, so far as public opinion is concerned, almost ripe. I feel certain that if public opinion in this country was educated by men like our gallant lecturer, and others who hold similar opinions, that the country would rise to the emergency, and would meet the difficulty. I do not believe for one single moment that compulsory service is necessary, but I do feel this, and strongly, that we require a framework, a carefully matured organisation with carefully trained officers and staff based upon an Imperial Militia Bill. When the moment of emergency comes, when danger to the Empire threatens, we shall doubtless have again the same gallant men who will come forward willing and eager to fill up the ranks as they have done in this present campaign. We require some system which will utilise this splendid material at least cost, and with greatest benefit to the State. I claim to have as much experience of the fighting value of the men from all parts of the Empire in this campaign as any other gentleman who has been employed in South Africa, and I can safely assert that a finer lot of fighting men than this Empire produced from all parts of the world it is impossible to imagine. The fault is that we have no system, no framework, no body of trained leaders and staff officers to utilise to its full advantage this magnificent fighting material. Yet a development of our existing Militia system into an Imperial Militia Army Organisation will exactly meet our requirements. I regret immensely that our able and gallant lecturer has not in his eloquent address touched upon this the full and complete phase of Army reform. I trust that he may do so, perhaps, at some future time.

Colonel ERNEST GRATTAN (late A.S.C.):—As I have travelled the road from private soldier to colonel, some of my views upon the subject of the lecture may have a little interest for this meeting. To my mind, comparisons between the measures necessary for recruiting the British Army and those by which other countries recruit their Armies, are apt to be misleading, for the simple reason that no other nation is situated in

anything like the same circumstances as Great Britain. In any case such comparisons cannot lead to definite conclusions, unless they are accompanied by statements showing the rates of wages and cost of living in the respective countries. It would occupy too much time if I were to go into the details of this proposition, and I will therefore turn to the practical measures that seem to me should be adopted by us. The standard of physical fitness has been reduced to meet the requirements of recruiting, and yet, even when trade is slack we can, I understand, barely obtain the number of men necessary to replace the annual waste. When business is brisk there is a deficiency more or less according to the degree of prosperity prevailing in the country. This indicates that with the exception of a limited number, who join for special reasons, we only get men who cannot make as good a living in civil life as the Army affords—in other words, we are paying more than market value for them.<sup>1</sup> I have made hundreds of enquiries amongst working men, and, taking the average of their statements, the State gives the soldier the equivalent of 24s. 6d. per week, but it does not get men who are earning that wage. The class that joins are the 17s. to 21s. per week men, and many of them do not earn even the lower amount. The Service as a profession is therefore at a discount compared with civil employment, to the amount, roughly speaking, of 4s. 6d. per week. This is due mainly to the restrictions of barrack life, and the uncertainty of being able to obtain employment after quitting the Army. I may here repeat a sentence or two of the evidence I gave before the late Lord Wantage's Committee in 1891. "So long as our Army is recruited by voluntary enlistment we are much more likely to obtain a sufficient number of recruits if we assimilate the conditions of the soldier's life to those of men in civil employment. We must march with the times, and yield to the wide-spread feeling of resistance to personal restraint that permeates the masses. Whether we can maintain an ideal fighting discipline under these conditions is a matter for experiment. I am of opinion we can." Every restriction not essential to the maintenance of discipline should be removed. The difficulty officers have in the matter is to free their minds from the traditional mistrust of what the soldier's conduct would be under conditions of greater freedom. With regard to the question of employment for the men after their discharge, we have to face the fact that military service unfits a man, especially in the infantry, for civil life. He acquires habits of obedience and discipline, but he loses the habits of work and initiative. A large employer of labour whom I once urged to give reserve men and pensioners a trial, said:—"I have tried them, and I'll never try another. You make loafers of them, they dawdle over their work, and when finished wait for the foreman to come along, instead of turning their hands to something else, or asking for another job." His opinion was confirmed by reference to other employers, police officers, etc. Roughly speaking, we take 35,000 growing lads and young men for the most part accustomed to manual labour, into the Service annually; we discipline and drill them, but do nothing to keep

<sup>1</sup> When the present rate of pay was fixed the soldier had to pay for his rations and groceries out of it. As late as when I joined the stoppage amounted to 4½d. per day; 3d. for bread and meat and half that amount for groceries. Since then a free issue of bread and meat has been instituted, and a contribution of 3d. per day towards groceries has been granted. A clear gain of 6½d. per day has therefore accrued to the soldier in the matter of his food. In other ways his position has been further ameliorated, such as the issue of an extra pair of boots per annum, and a more liberal allowance of clothing. A man has at least three times as much money to spend now as he had when I joined. Then the maximum daily pay issued was 4d., but for an aggregate of about 2½ months in the year a man was under stoppages for repairs to boots, necessaries, etc., when he drew only 1d. per day. There are probably some old company ledgers still in existence, and if they are examined I think it will be found that the men's average receipts did not exceed 3d. per day. In smart, well-dressed regiments they were even less, as being marked for a new shell jacket, or pair of trousers, meant at least an extra month on a penny a day to the man. I am writing from memory, but the old ledgers can check my statements.—E. G.

up the habit of work, and when they quit the Service they have lost the art and are practically wasters, only fit for messengerships and such like employment. Instead of sending them back better fitted by reason of their improved physique to earn a decent living, we have to fall back upon various semi-charitable organisations to help them and to find them something to do. We should have workshops and labour-training establishments in all camps and garrisons, where the men could keep themselves in practice. No great ingenuity would be needed to start these and make them self-supporting. I believe if the unnecessary restrictions and petty restraints of military life were abolished, and the men could maintain and improve their capacity for civil employment, the Army would gradually come to be regarded as one of the ordinary avocations for young men. Parents would not object to their sons joining, and many young artisans have told me they would not mind giving the Army a try, but they were afraid of losing their craft through want of practice. I have heard it urged that all a soldier's time is needed for his training, and there would be none for the workshop; but that won't go down with men of experience. Again, the system of stoppages gives rise to a large amount of clerical labour, and is a fruitful source of discontent amongst soldiers. Every man should receive a free issue of necessities, an allowance for repair of boots, and library and hair-cutting should be free. For obvious reasons they should pay for their own newspapers, and for damage or loss accruing from their own neglect and misconduct. Young and inexperienced non-commissioned officers cause much irritation amongst the men. I think steps should be taken to improve the class by making the Army a life's profession for them. Military history in a popular form should be taught in Board and Army Schools, and it should be a subject of examination for school certificates. This would engender a spirit of patriotism in the youth of the country which is much wanted, as the men are practically almost totally ignorant of what their forefathers did by sea and land. I paraded 147 men once before a Recruiting Committee, and asked each man whether he had ever heard of the Alma. Three only had even heard the name, one thought it was a woman's name, another had heard it, but did not know to what it referred, the third thought it was a fight between the Russians and some other nation. If some such steps as I have suggested were taken there would be no difficulty in getting more men than we need at the present rate of pay. There are numberless other points connected with the question into which I should like to go, but the afternoon is now hot for the infliction.

Colonel F. J. GRAVES (late commanding 83rd Regimental District): — I promised the Secretary that if there was a small gap to fill up at the end I would do my best to step in. There are two points that the lecturer, I am sorry to say, did not touch upon, though I should very much like to have heard what he would have said. He refers now down in the synopsis to the "doubtful nature of the territorial system for recruiting purposes." Then he refers to the "training of recruits—depôt *versus* the linked battalion." I should be glad to hear, Sir, when you are answering the questions, a few words on those subjects. Those are the points, I believe, upon which the whole of our recruiting system is based. We have been going to-day, if anything, a little too much into the petty details of pennies and so on. I take it that the lecturer is distinctly of opinion that the value of the territorial system with regard to recruiting is doubtful. I thoroughly endorse that idea. But it should be remembered that the territorial system, as it at present exists, was based upon circumstances that obtained over 30 years ago. It was based upon the central idea that every 100,000 of the population would give to the Service 1,000 men. During that 30 odd years the distribution of the population of the kingdom has changed in a most remarkable manner. No less than 75 per cent. of the total population are now living in cities and towns. The division between the country and the town used to be something like from 60 to 40. Therefore the territorial system fails in carrying out the essential idea of each territorial centre supplying a fixed number of men for its territorial regiments, and it is for this reason becoming of more than doubtful value, and is gradually and certainly breaking down. With regard to the training of recruits—depôt *versus* the linked battalions; before we get them, we have

to consider the basis of acceptance. I agree with the lecturer altogether when he lays stress upon the value of increased intelligence; but as one who has had some experience in the last 5½ years of recruiting in a very large way, I venture to suggest that he must not forget that the basis of the recruit's acceptance by the military authorities is necessarily the physical to start with; that the physical development and the qualification of the recruit are a matter of scientific observation and demonstration on the spot by the medical man, but that the man's mental qualifications and intelligence are a matter of guess-work, and all the medical officer can do is to go on the principle of *mens sana in corpore sano*. We have to take them on their physical value at the outset. But I think I must say a word about the rejections. It has not been my experience as a commander in a very large recruiting centre that the medical officers are by any means slack in acceptance of recruits. It may obtain in certain places that I do not know of. I believe I do know of one or two cases, but generally speaking one of the complaints made by the Inspector-General of Recruiting and his staff to the War Office is that the medical rejections are too large. General Geary will bear me out in the statement that I had to get one or two of the medical officers removed by the authorities, because I had no less than 600 rejections per 1,000 per annum. "If this is going on," I said, "I cannot get recruits." I believe that they are too strict in many cases, and that is one reason why, in a number of centres, recruiting is going down. I think one of the great factors in successful recruiting is the treatment of the recruit, both at the time of his enlistment and as a recruit afterwards at the dépôt. There is a very widespread idea that dépôts are of very little use with regard to the training of recruits—that it is only a time when they get into bad ways which have to be knocked out of them when they get to the battalion. Of course, it depends on the agent who conducts the work of the dépôt. My own opinion is that if the recruit is treated in a kindly manner when he comes up to be enlisted, and not treated as if he was an escaped gaol-bird—not treated as if he were a fraud—there would be an immense improvement. It is quite easy if you are sitting in your chair and looking at a man straight in the face, and you are not satisfied with his appearance, to say to your recruiting staff officer, as I have always done myself, "B. 61." The man does not know what you are talking about. For the benefit of the ladies I will explain what "B. 61" means. There is a War Office form called "B. 61" which is sent out to the police authorities at the place where the man has given his address. Searching questions are asked about him of the police, and if they are answered satisfactorily the man is passed, and the recruit does not require to be told that he is a fraud or a scoundrel, and looked upon as if he had just come out of gaol. If you treat men in that way it will be all the better so far as recruiting it concerned. I believe strongly in *Punch's* remark with regard to the wife and the husband about "feeding the brute." I believe in feeding the recruit. I believe that one of the chief things that the officer commanding a regimental district should look after is the cooking, especially the rations. If you feed up your recruits—and you know how some of them enlist, because they are suffering terribly from hunger—and show them that you take an interest in their well-being, these men will become recruiters themselves. Again, when I went to Belfast I found it had been the habit to give long periods of drill in the morning, middle day, and in the afternoon. I reduced the length of period on the drill-ground to half time, and in its place I got the general officer commanding at the time to increase the time spent by the recruits at the gymnasium. General Grenfell, who was the Inspector-General of Recruiting, came down, and was surprised at the enormous development of these young fellows, which had been caused by the extra time they had spent in the gymnasium. I believe that the work of the soldier during his first three months' service should not be hard, but that it should be healthy exercise, with a view to developing him and turning him into something worth more than 15s. a week. Now we come to the question of pay, on which I should like to say a word. I agree almost entirely with what the gallant lecturer said, but I will put my remarks in this way. Of the nearly 10,000 I have obtained in the last 5 years, I am bound to say that 3,000 were boys at the time of their enlistment, and were not worth more



than 15s. a week; but taking them now on the average, I believe that by the time they have done two years' service apiece they were worth more like 20s. a week. Therefore I am fully of opinion that the pay ought to be *pro ratâ*, to begin with physical qualifications on enlistment, and with service afterwards. If you get a man of 19 years of age with a certain development, he is worth more than 15s. If you get a lad who you believe is only 17½ or 18, and only just comes up to the standard, give him only 15s. Then, further, I think there ought to be a steady progression in increase of pay with length of service, irrespective of good conduct. I believe that as long as a man is considered fit to serve the King—he may not have an excellent character, he may not be absolutely sober, he may not be absolutely everything from a moral point of view that we may all like him to be—but as long as he is fit to remain in the King's service he ought to have an increase of pay *pro ratâ* with his length of service; and if he becomes a good-conduct man he should get good-conduct pay in addition, for it is absurd that a man of 7 years' service should only draw the same pay as a lad of one week's service. One weak point in our system is this. At the end of 12 years' service—that is, 7 years with the colours and 5 years with the Reserve—we lose, as I have experienced, large numbers of splendid fellows, averaging from 27 to 32 years of age. The country has no further claim upon them whatever. In one month I lost 17 such men, every one of them with very good characters. I wrote privately to the Adjutant-General and asked him if something could be done. Nothing could be done, but the matter was taken into consideration. I was then asked my opinion as to the foundation of a special reserve of 5,000 men, and I strongly advocated it. I obtained permission to re-engage as many of these men who were leaving at the end of their 12 years as I could. The 5 years' Reservemen were obtained, and it developed into the addition of the Royal Reserve Regiments, for which £20 bounty was paid per man, which I believe could have been got for about £5 a head. However, we spend millions in times of crisis, and we save pennies and shillings in times of peace. If we spent a little more in times of peace, we should not want to squander and waste the public money as it has been in times of war.

Lieut.-General Sir H. Le G. GEARY, K.C.B. (Royal Artillery):—There is one point which I think is very important and which we are apt to lose sight of in discussing the welfare of the soldier. My recollection goes back to the Service of something like forty years ago, and during the whole of that time we have never been able to recruit the Army up to strength by voluntary enlistment, and, therefore, whether the House of Commons will have it or not, I am sure that in the near future conscription or compulsory service in some shape or form must ensue. If we have tried the experiment of voluntary enlistment with a very small Army, compared with what we have to-day, it has proved nothing but a dismal failure for the last fifty years; how much longer are we to continue discussing voluntary enlistment? If it be true, as the lecturer says, compulsory service is absolutely out of the question, and we must go on with voluntary service, I think we ought to consider more the wishes of the classes from which we hope to draw our recruits. The suggestion of the lecturer for an increase of pay all round I do not think would meet the case, because the different classes have different aspirations. We want first of all to draw the men from the lower middle class. They are men who wish to raise themselves. We must, therefore, hold out to them inducements which will speak to their ambitions and to their hopes for the future. A shilling a day more will alone be no inducement. The next class that we want to enlist are the working-men, and these think of nothing so much as provision for the future, that is to say, a pension. The system under which pensions were well-nigh swept away in order to effect a saving was one of the most disastrous things connected with voluntary enlistment. Then there is another class from which we get our men—the casuals. For those men I quite admit that any amount of pay you like to give them would be a great attraction, and a proportionate amount of crime would undoubtedly ensue. Therefore I do not think that an increase of pay is a thing to be advocated without more careful consideration. What we do want is, for the best class of men to find that the

Service offers something worth their acceptance. Two men go out into the world together. One goes into some trade or business, and he is able by subscribing to a club or insurance company to make provision against a rainy day. His brother goes into the Service, and after he has received his arrears and deferred pay on discharge he is left absolutely unprovided for. There are many in this room who constantly come across such cases. There is yet another means which would be a great assistance to voluntary enlistment, if that system must be gone on with, to which I drew attention some twenty-five years ago, namely, that we should train boys and enlist them as we do for Navy. As a quarter of a century has gone by, the subject might now come up as a new one, and more attention might be paid to it than has been up to the present time. I think we shall all admit that the way in which the boys so recruited for the Navy are turned out is very creditable; and if we could introduce a similar system for the Army I have no doubt it would prove equally satisfactory. By all means do not grudge money to be spent upon the Army Estimates; only, I think, it would be unwise to rush the expense according to a hard and fast line, rather than to think out first what is really wanted by the different classes to whom you are appealing, and then apportion your expenditure accordingly.

Captain LEE, in reply, said:—I must say at once that I recognise very clearly that I have not dealt by any means exhaustively with the subject. I have not even touched upon a good many of the headings in the paper. But considerations of time made that necessary. In reply to certain points raised by Lord Alwyn Compton, I quite agree with him as to the importance of an adequate money wage; and with reference to what General Geary has just said, I cannot quite agree that it is quite sufficient to hold out merely *prospective* inducements to young men in order to get them to enlist. I do not think any of us at the age of 18 or 19 or thereabouts think very much about what our future will be several years hence, and it is essential, I think, that we should make the *immediate* prospect of the soldier's life more attractive than the life which we are asking him to leave. Whilst I entirely approve of the idea of holding out the inducement of a pension, I am afraid that will not be sufficient, unless at the same time the immediate prospect of life is made more attractive to him in a pecuniary sense. It has been suggested in previous lectures at this Institution that the British soldier is above monetary considerations, and that he enlists and fights only for love of his country. I think that is rather a fantastic notion. There is no reason that I can see why he should be different from every other class of that community. All of us think a good deal of the wage that we can command for our services, and I think that the British soldier does the same. Several speakers have referred to the desirability of a sliding scale of pay, and I can only say that I also have advocated that very strongly on previous occasions when I recommended the American system of a sliding scale. It was merely because I did not wish to repeat myself too much that I did not refer to it at length again to-day. I am entirely in favour of it, and have always urged it. I also agree very strongly with what Lord Alwyn Compton has said about the desirability of the community as a whole taking a hand in this recruiting matter, and that it is very wrong for us to stand aloof, and that occasionally there should be some prejudice, not so much in our class but among the lower classes against men enlisting at all. I now come to the very contentious question raised by Lord Wemyss with regard to the advisability of conscription. Perhaps we had a little difference of opinion as to the exact meaning of the word conscription. The ordinarily accepted meaning has been considerably modified by a subsequent speaker, Dr. Maguire. By conscription I have always meant compulsory service in the Regular Army, whether for service abroad or for service at home. At any rate, I think we must put the first out of our consideration. It is impossible, I think, that this country, would stand conscription for service abroad, and the point I wish to make here is that our Army is essentially a foreign service Army. I am one of those who belong to what is now called the Advanced Naval School. I am no believer in the possibility of this country ever being invaded so long as the country is as alive as it is now to the vital importance of keeping up the Navy. Therefore whilst I am the last person to decry the Volunteer movement

in any way—I think it is a most admirable thing—at the same time I regard our Regular Army as being infinitely the more important of the land forces under the Crown, as being essentially an Army for service abroad, and not an Army for home defence. Of course there again you raise the great question of what is home defence. My idea of home defence is that it is the defence of the British Empire, and that the best defence of the British Empire is on the sea and at the frontiers of the enemy. It does not consist in the defence of these islands. Therefore my arguments all through have been directed towards the improvement of the Regular Army, the foreign service Army, and I had not in my mind at all any question of compulsory service for home defence in the more restricted sense of the word. If we could force, by example or compulsion, all young men to pass through the Volunteers, I am sure it would be a most excellent thing; but I do not think that any form of compulsion is necessary to get as many Volunteers as we want, and I do not believe in the enlargement of the Volunteer Force so as to include every young man in the country. I think the Volunteer Force is quite big enough as it is, and I for one should be very much against increasing it. With regard to this question of conscription, I know that it is favoured by a good many people; but, with all respect to Lord Weymss, I still think that it is a political impossibility. It has never been tried, I admit, but I think there is no necessity to try it, and I think that it is foreign to the spirit of the British race. One of the great strengths of this nation is that we never have failed, and never shall fail, in any time of national emergency to raise as many men voluntarily as may be required. The noble lord spoke of compulsory service as the Englishman's birthright. On the contrary, I regard voluntary service as the Englishman's birthright, and on that point I am afraid we must agree to differ. I quite endorse Dr. Maguire's tribute to the non-commissioned officers of the Army. I only think that we run a risk by not giving them enough pay, but I heartily endorse what he has said with regard to their general efficiency and tact. I now pass on to the remarks made by Sir Edward Hutton. I am sorry that he is vexed with me for not having dealt with the great question of the defence of the Empire, but he must not think that it was by any means absent from my mind. But the question of recruiting is so large in itself that if I had attempted to touch upon that very much larger question, in which I am almost as much interested as he is, we should have got off the immediate subject of the lecture; and while we should have got doubtless into a far more interesting subject, people might have said they had been brought here under false pretences! I heartily endorse everything he said with regard to the necessity for an organised Imperial defence scheme, but I think that is a matter which would be more properly discussed on some other occasion. With regard to Colonel Grattan's remarks, I should like to know by what process he arrives at the 24s. 6d. which he says is the equivalent of the British soldier's wage.

Colonel GRATTAN :—I arrived at the figure from enquiry amongst the soldiers themselves, taking the different classes. The amounts vary a little. Some say they receive 28s. 6d. and others 22s. 6d. I have taken the average right through, and make it 24s. 6d. That is what he receives in money and in kind.

Captain LEE :—I only wish to point out that it is an entirely different estimate from that made by the late Secretary of State for War and the late Under Secretary of State for War. These estimates are so entirely different that I should like to know how they were obtained.

Colonel GRATTAN :—I got it from the men themselves.

Captain LEE :—Personally, I cannot help feeling the amount is rather high. Then there was a very interesting point raised as to whether, if we got a man of increased independence and increased initiative, his fighting discipline would be as good. I say unhesitatingly, yes. There is not a doubt of it that the intelligent man is the better disciplined man when it comes to fighting, because his discipline is intelligent. That was brought home to me very clearly in the Spanish-American War. I do not say that the American soldier in time of peace stands absolutely rigid to attention when he sees

an officer coming; but in time of war, under the stress of actual fighting, there is no finer disciplined man in any Army in the world. Therefore I do not think we need fear for a moment that if we increase the quality and intelligence of our recruits that we shall lose anything in the way of discipline. Moreover, the more intelligence and the more initiative you get in the soldier while he is in the Service, the more likely is he to get on afterwards when he comes back to civil life, as he will not be ground down into a mere machine. I will now refer briefly to Colonel Graves' remarks. He said that a good deal of time had been taken up with the discussion of petty details. I quite admit that; but I wish to point out to him, what I am sure he will recognise, that these petty details are things which are extremely important to the recruit, and that in fact his horizon is very much made up of such petty details. We have not to consider so much the higher aspects of the question, as the points which will appeal to the recruits themselves, and on that ground I defend my line of action in discussing petty details. Then as regards those other questions which I omitted about the system of training recruits, *depôt versus* the linked battalions, etc., considerations of time prevented me from dealing with them, and it is so late now that I think it would be hardly desirable that I should enter upon them beyond saying this, that I do consider the *depôt* period should be made the most attractive period of the young soldier's life, whereas it is now the most trying and the most disagreeable. That reform can only be effected by obtaining the smartest officers and the keenest non-commissioned officers for duty at the *depôt*, instead of the class which we now too often obtain. I must totally disagree with what Colonel Graves said about the percentage of medical rejections being too large. I think, on the contrary, that it is ridiculously small. I cannot agree for a moment that it would be desirable to let in a larger number of those applicants who come forward. I have shown from the reports from Guildford *depôt* that you may take these men in, but you cannot keep them. 33 per cent. of them disappear before the end of the year; and what object is there in keeping a man part of a year, spending a great deal of money on him, and then losing him at the end of the time? It would be a greater economy to have a smaller number in the first place, and to secure that that number were efficient men who would remain, and on whom money expended would not be wasted. With regard to the question of increased pay, I had hoped that Mr. Esdaile would have been here to speak. He is the gentleman who started the "Recruitograph," and he has been going through the country with this combination of a lecture and cinematograph, to lay an attractive picture of a soldier's life before intending recruits. I have received a note from him in which he regrets his absence to-day, and then goes on to say that in the course of his extensive tours he has discussed this recruiting question with workmen in every part of the country, and that their chief complaint is that the pay is not high enough to make it worth their while to enlist. If it were raised to even 1s. 6d. a day clear he thinks they would come forward freely. I think that is very important testimony. I now come to the remarks of Sir Henry Geary, and from what I have already said he will see that I am bound to differ from him on the advisability or possibility of conscription. I think it is neither possible nor advisable at present. He says that the voluntary system has proved a failure. I do not quite agree. It is proving a failure under present conditions, certainly; but we have not tried going frankly into the labour market, and offering the market price for a better class of man to join. Until we have done that, I do not think we can say that the voluntary system has broken down. Whilst this may mean a great additional expense, I do believe the nation will prefer to try it before considering the question of compulsory service. I have not dealt with all the remarks which have been made, but I am anxious to leave time for Lord Wolsley to speak. In conclusion, I will only express my thanks once again to those who have so kindly come here and assisted us by taking part in the discussion. It is quite natural we should not all agree on such a subject, but I think a great many useful opinions have been elicited this afternoon; and if the result of the lecture is to stimulate interest in the subject, I, at any rate, shall feel that it has been well worth while.

Lord WEMYSS :—Captain Lee said that voluntary service was the birthright of the Briton, I having said that every Briton was born for compulsory service. Is Captain Lee prepared to deny this : that the Crown has from all time, from the Plantagenets downwards, and by the law of the land which is annually suspended, the right to call upon every citizen compulsorily to serve for home defence? That compulsory service is not in the Army, it is in the Militia. All our public men are just the same, they fear the voter. That is the whole story. If they did not, we should have compulsory service in the Militia to-morrow.

Captain LEE :—I merely rise to say that I quite admit that the present state of the Militia is unsatisfactory ; but even if the Militia were in the most satisfactory condition possible, by virtue of conscription or any other means, I still think that the main question with which we have to deal is untouched, because, as I have said before, I consider that our Regular Army—our foreign service Army—is the essential force upon which the military defence of the British Empire must depend.

The CHAIRMAN (Field-Marshal the Rt. Hon. Viscount Wolseley) :—I entirely agree with the lecturer that during this afternoon's proceedings we have heard many valuable expressions of opinion upon this great military subject. It is one which must be grappled with, and must be dealt with now, once and for ever, by the Government of the day. The first question we have to answer is, What is to be the size of our Army? The size of the Army depends upon the duties that are to be performed by the Army. Speaking in another place lately I referred to a minute addressed to the Secretary of State for War in 1888 by the Commander-in-Chief, which, I think, was the most important military document that I ever read in public life. In it the Commander-in-Chief of the Army laid down for the Government what he conceived to be the duties for the due performance of which the country maintained our Army. The object for which our Army existed as then formulated by the Commander-in-Chief were accepted by the Government, and those are the duties and responsibilities for which we have been organising and preparing our Army ever since. I believe that a copy of the paper in which the Cabinet of the day adopted the views of the Commander-in-Chief upon this important subject is to be laid before both Houses of Parliament. Having decided on what the duties of the Army are to be both at home and abroad, then it is fairly easy matter to decide upon what its strength is to be. That is the question upon which experts alone can give an opinion. Of course, I do not agree with my friend the lecturer in his statement that the Navy is quite sufficient to defend these shores. If the Navy is able to defend these shores, the Navy is able to defend the shores of Gibraltar, Malta, Halifax, Bermuda, and all the other parts of our Empire ; therefore, why on earth should we send large garrisons to these places? I am not going into that question now ; it would entail a very long discussion ; but if you carry out the argument that this country requires no defence and no defensive force in it, all I can say is, that the whole of the ideas upon which we have been working are wrong. The Duke of Wellington was wrong ; Nelson was wrong ; Collingwood was wrong—the two greatest naval authorities we ever had—because both of them, together with our greatest military authority, believed the invasion of this country was a possibility to be provided against. We are also quite wrong now, because we maintain a Militia, a magnificent force of Volunteers, and a very considerable Army in England. If these shores do not require a defence on the part of any military force, all I can say is, that we are throwing our money away. We have built, and are still building, great powerful forts for the defence of our shores ; we are building large works at various places on the coasts of England, Ireland, and Scotland ; we have sunk millions of money in those works, and we are still going on spending very large sums of money on the armaments required for them. If this be so, and if the lecturer's idea is an absolute certainty, if this country can be defended by the Navy alone, all I can say is, that if the Government believes that, and at the same time spends vast sums of money upon defensive works, upon our Militia, our Volunteers, and our whole Army, the members of the Cabinet should be tried by court-martial. I think there is little more to say upon this Army question. I stated my views upon this great question of how we are

to get an Army the other night in another place. The question resolves itself, in my mind, into a very simple problem, namely, that every man in England must either serve himself, or else he must pay somebody else to serve for him. Those are the alternatives we have to think of. You must either have compulsory service or you must go into the open market and obtain the number of soldiers you require, on the same principle and by the same methods that all great contractors and employers of labour obtain the number of workmen they require. If you cannot obtain the number you want at the rate of 1s. a day, you will have to give 1s. 6d. or 2s. In other words, you will have to pay your soldiers the market rate of wages. The question is one of the very simplest of calculations to any man of business who knows that two and two added together make four. We must adopt the plan that is adopted in America, which is, I believe, the only other great civilised nation in the world which still maintains the system of voluntary service—I mean you will have to pay the men the market rate of wages. If you want a good man to do your work for you, you must pay him a proper rate of wages, and in the end it will be a much more economical plan to do so than to hire boys cheap, hoping they will do a man's work for you. The subject is one that interests me greatly, and I have very strong views upon it; but as the hour is late, I shall not pursue it further at present. I have now simply to convey in your name our very best thanks to the lecturer for having brought before us in a pleasant and interesting way this most important subject, and also to those gentlemen who have spoken this afternoon, who have brought many very important topics connected with the lecture to our notice. We are very much indebted to the lecturer and to those who have taken part in the discussion.

Lieut.-Colonel W. C. UNDERWOOD (4th Hussars, Res. of Officers), not being able to be present, has forwarded the following remarks:—

Owing to illness I am unfortunately precluded from attending Captain Lee's lecture on recruiting, which will doubtless be a valuable contribution to this most important subject. I gather from Captain Lee's recent speeches in the House of Commons, that he advocates in this lecture a considerable increase in the pay of the soldier, so as to compete with the labour market. The objection to this, of course, is the enormous expense which would be entailed, unless only a comparatively small force were raised, in which case, how would it be possible to obtain efficient reserves as feeders for our foreign battalions in a prolonged war? In a recent translation of Lieutenant Lebedev's report on the "Invasion of India" by Russia, which appeared in the JOURNAL of this Institution, it is stated that Colonel Macgregor officially reported to our War Office that 134,000 European troops would be required, in addition to the Native forces, to efficiently defend our strategical line from the Bholan to the Khyber passes. Assuming this statement to be correct, what number of trained men would be required to act as a feeder for this force in a campaign of 18 months' duration? The prolongation of the Boer War at the present moment is largely due to the fact of the absence of trained men in the country to draw upon to fill up the vacancies caused by casualties and time-expired men. Several officers of Yeomanry have written to their friends saying that a large proportion of the drafts recently sent out can neither shoot nor ride. It is also highly probable that there would have been no war at all had the slim Boer and his Continental friends not been well aware of the fact that we had no well-trained men. Efficient and well-trained Reserves are an absolute necessity for the defence of the Empire against a possible combined attack on our land frontiers, and also to give the Navy a free hand to protect our food supply, instead of hanging round our shores to prevent an invasion. The only way in which this can be done effectively and economically is by a modified form of conscription. Captain Rose recently, in his valuable prize essay, objected to conscription on the grounds that while it would give us too large an Army for home defence, it would not equitably provide for the foreign garrisons; but surely this view is fallacious, for only a portion of those once trained need be called up and embodied, while it is reasonable to suppose that an enlightened system of training would give us a much wider field to recruit from for the battalions



for foreign service, assuming that higher rates of pay were granted to the foreign battalions, as Captain Lee suggests. There is a feeling of fear among our leaders of public opinion, that the proposal to exact compulsory service would produce violent opposition, if not a revolution, in the country; on the contrary, I believe among those who claim to be true patriots and lovers of their country who now fill the ranks of our Volunteers, there is a strong feeling that the loafers who remain at home when their country is in danger should be compelled to lend a hand to the country's defence, and this they cannot do unless as young men they go through a preliminary training.

# THE TRANSVAAL WAR: ITS LESSONS IN REGARD TO MILITARISM AND ARMY RE-ORGANISATION.

*By His Excellency M. JEAN DE BLOCH,  
Russian Councillor of State, author of "The War of the Future."*

Monday, 24th June, 1901.

Major-General Sir J. F. MAURICE, K.C.B., R.A., *p.s.c.* (Commanding the Woolwich District), in the Chair.

*[The lecture is now printed as it was finally read. Owing to the length of the paper, and to save time in reading, it was found necessary, where possible, to transform portions of the text into the form of Notes, which is the reason of their voluminous character.]*

## PART I.

AT the present moment your country, under the influence of a public opinion created by the South African War, is on the eve of the radical reform and reconstruction of her Army. The study of the lessons which the Transvaal War teaches in regard to a great European War is of immense importance. Firstly, because it is the first time that the perfected fire-arms and smokeless powder have been brought into use on a great scale; and, secondly, because those teachings prove best how far the calling together of the Hague Conference was opportune and in the interests of humanity, in view of the fact that a great war would bring forth terrible catastrophes without solving the questions in dispute, owing to the exhaustion of economic resources; and probably internal revolution would force the conclusion of peace, with the social order of Europe in dissolution, and Europe would find herself faced by complications which it is now impossible to describe.<sup>1</sup>

The South African War will serve as a notice to the Governments and people to change their aggressive policies, and it can give certain immediate advantages. It proves that military service as practised to-day is absurd, and that the sacrifices made on the Continent to support conscription, and into which it is proposed to drag England, are unneces-

<sup>1</sup> General von der Goltz, the re-organiser of the Turkish Army, and now chief of the Engineers and Pioneers of the German Army, in his remarkable classic "The Nation in Arms" (5th edition), expresses the same opinion:—"Economic resources will break down before the armies are exhausted; for instance, operations in France must be very long drawn out. A war against Russia will demand several campaigns before arriving at any result. . . . We may predict that wars cannot terminate other than by the complete destruction (*Vernichtung*) of one or the exhaustion of both combatants."

When a German General affirms such a thing as this, he must be very deeply convinced of the gravity of the situation.

sary. It shows that the theatrical spectacles called manœuvres are in no way related to real warfare.<sup>1</sup>

It is this reason which forces me, notwithstanding the exceptionally unfavourable conditions in which I am situated, owing to difficulties arising from ignorance of the English language and the condition of my health, to prepare and hand over for your consideration the question of the teachings of the South African War in regard to a great European war, and also in regard to the projected increase of the British Army with the object of participating in a struggle with the Continental Powers. Having devoted twelve years of my life to the study of the questions involved by a future war, it would be unpardonable for me to refrain from taking advantage of the opportunity which your Council has given me to

<sup>1</sup> But, unfortunately, no illusions can be cherished as to the learning of this lesson. The lessons of the Transvaal War are in danger of being lost to humanity. Even England makes no exception to this rule. We find distinguished writers, after summing up the events of the Transvaal War, expressing as their conclusion that, generally speaking, on all the subjects in question, the war confirms and demonstrates to the public what was already known. And this could not be otherwise. For the present situation arises from a veritable nervous disease a perversion resembling the moral epidemics common in the Middle Ages. In place of seeing a danger for the social order, and even for their own existence in the present conditions, the sovereigns and statesmen of Europe attempt to exploit the antagonism of nations among themselves in order to continue their fatal policy. Only a few genuine statesmen and a few true patriots revolt and denounce the fatal consequences of this policy. The force of this re-actionary movement we see best in the way in which the Conventions of the Hague Peace Conference were received. On the eve of the Transvaal War, which, as Lord Curzon declared so justly, has revolutionised the ideas of the whole world on questions relating to armaments, tactics, and the whole science and art of war, scarcely any effort was made to support by proof and scientific argument the important Hague manifestations. Even on the part of the military delegates at the Hague Conference, whose interest and duty it was to support the manifestation of their supreme chief, not a word was uttered concerning those facts which the Transvaal War a few months later proved. And the reason lies not in the bad will of the soldiers, but in the traditions of their Service. From time immemorial the vast majority of soldiers have been attached to routine, troubling nothing in regard to essentials, and, indeed, being without the means for establishing a comparison between the present and past. The technical changes in the mechanism of war are accessible to each in his special sphere. But each expert is confined to his own sphere; and since every effort is made to keep secret the results obtained, only exceptional minds can embrace the whole subject, and appreciate the results of the new conditions. In addition, it must be said that the great majority of soldiers are strangers to the economic questions involved in war, while diplomatists and the chiefs of political parties have not the time to occupy themselves with such questions. The same may be said of statesmen in office, to whom belongs in the last resort the decision of the question of peace and war. Absorbed in their immediate duties, very few attain a height of view sufficient to see all those dangers of the future which the Transvaal War has shown so clearly. Indeed, there is only one country in which full consideration of the questions involved in a great future war is possible, and that country is England, her advantage arising from the comparative independence of the Government of her soldiers, and soldiers from their superiors. English soldiers have shown that they are first of all citizens of their country, and that the interests of the people are dearer to them than their uniforms.

express my views. But it would be absurd self-confidence on my part if I entered into the details of the Transvaal War. Each of you as experts, with opportunities for following more closely than I the events of the war from printed sources, and, what is much more important, by relations with eye-witnesses and participators in the actual events, is much more competent than I to express an opinion as to details.

But, on the other hand, I, standing somewhat farther away, have been able to follow the events of the South African War, not from the point of view of its importance only for England as a State with great Colonies, but in its influence on a future war which might break out between the Great Powers. However, even in this relation I do not pretend to express definite opinions and affirmations; but, being an economist, and, at the same time, not unfamiliar with military questions, as the author of a book on "The War of the Future," which has passed through the criticism of military authorities, I may put forward some facts to show how far the present war justified my predictions.

Lack of time makes it impossible for me to enter into details. Nevertheless the question is one of extreme gravity. For that reason I have set out material on the walls of this room, which enables you to see the question as I see it.<sup>1</sup>

<sup>1</sup> These tableaux illustrate :—

#### THE MECHANISM OF WAR.

To show that the war of the future will resemble hardly at all even the most recent struggles, I have attempted to represent the principal factors of war; the composition of troops, their armament, the possibility of erecting shelter very rapidly; the impossibility with smokeless powder of reconnoitring the enemy's position; finally, the difficulty of attack which will force the combatants if they are to avoid the enormous losses which would result from a hand-to-hand fight, to adopt tactics which will make the struggle very prolonged. I have collected statistics which show, on the one hand, that the military forces of the Great Powers are nowadays practically equal in number, armament, and training, that the obtaining of such results as would force one party to make a disadvantageous peace is therefore impossible; and that, on the other hand, the regular provisioning of the Army with food and munitions of war will form an extremely difficult problem.

#### NAVAL WARFARE AND COLONIAL INTERESTS.

Naval warfare is represented by a series of tableaux destined to furnish those indispensable elements which will enable us to judge whether naval warfare has not this in common with warfare on land, that it surpasses all practical needs, and whether at the first use in battle it can do more than throw into the sea the milliards abstracted from the labour of the people and thousands of human lives. Whether also in order to stop all commercial intercourse the regular cruiser and armed vessels are not enough.

#### ECONOMIC AND FINANCIAL CONSEQUENCES.

Another series of tableaux shows why the economic resources will come to an end before the armed forces are exhausted. The call to the colours of almost all the civil population capable of bearing arms will produce such internal perturbations that the lack of financial and economic resources will end in terrible misery, the bankruptcy of the belligerents, and even in revolution.

The examination of budgets, an estimate of the cost of a future war—taking into account the differences which exist between this war and the Franco-German and Russo-Turkish Wars of 1877—prove it also.

War not then terminating except by the complete exhaustion of both combatants or by a social cataclysm, it is necessary to show that peace will be hardly

It may be that my conclusions are wrong; but my work is without *arrière-pensée*, and it is the result of profound study. My thesis at least, therefore, merits examination. That is all I ask for. But even if you doubt the accuracy of my views, or find them exaggerated as regards the conditions of to-day, you must assume that the ascensional movement in numbers, technique, and economic factors will continue; and then put yourselves the question, What will happen in a war ten or fifteen years hence, and what will be the consequences? It is necessary to consider this question now, for politics are not made from day to day.

The difficulties of the task being set out, I must beg for your indulgence for the length of my paper. But having to embrace so many different considerations, technical and economic, present and future, by the nature of things it cannot be short. I will, however, attempt to make it easier to understand and discuss by dividing it into several distinct parts; and if I make one request it is that you should be so good in the interest of a possible discussion as to refer all objections to the corresponding sections, adopting the nomenclature used by me. I will first deal with the thesis that—

THE RESULTS OF THE TRANSVAAL WAR ARE NOT DUE TO  
DEFECTS IN THE BRITISH ARMY.

To this a capital objection rises at once. Military routinists declare that if, in place of the British, another nation under compulsory service had had to fight the Boers, the results would have been different, and the war would have been over long ago.

For different reasons the sympathies of almost the entire masses of the whole world have been on the side of the Boers, and, therefore, there is nothing astonishing in the fact that this view has been generally accepted. As Taine said, the people think not with the head, but with the heart. Yet this popular belief is one of immense importance, for if it be not uprooted it may render null every lesson which the Transvaal war teaches. For this reason I am forced to study this question from two points of view: at first, whether it can really be believed that an European Army, such as that of Germany, which has the best reputation, would have obtained more decisive results than the British Army; and, secondly, whether in case of an invasion, say of Germany by France, the invader would not meet with still greater difficulties than the British Army had to meet in South Africa.

easier to conclude for the victors than the vanquished; that the results obtained by the victors will not compensate them for their sacrifices, and that the disarmament of their troops will present serious difficulties, above all among the beaten side, the conclusion of peace being liable to be followed by internal revolution.

Finally, facts are collected to show that the armed peace as it exists now is nothing more than war disguised, and that the situation become chronic in Europe weighs on it in two ways: it swallows up a great quantity of floating capital, that is to say, the collective natural savings, by transforming them into armaments; on the other hand, it retards the development of commerce and industry, prevents the diminution of taxation, and thus develops socialism and anarchism to such an extent that it must end by destroying social order.

THE REPROACH OF INCAPACITY AND THE NEGLECT OF THE BRITISH  
ARMIES TO MAKE SUFFICIENT RECONNAISSANCES.

The most remarkable feature of the war, the feature which has been the greatest cause of British reverse, and which would recur with consequences infinitely more grave in a war between better organised military Powers than the Boers, is the constant impossibility of determining the enemy's positions.

With a unanimity which seems convincing, but which in reality is nothing but a convention, the military routinists reproach the British officers with having neglected to reconnoitre the Boer positions before attacking them. Now, if this difficulty of reconnoitring had never been predicted as one of the features of the war of the future, the reproach might be upheld. But long before the outbreak of the South African war the difficulty of reconnaissance had been announced by military specialists of the first class as one of the inevitable consequences of the employment of smokeless powder and long-range weapons. This being so, it is not to British defects that we must attribute the failure of the reconnaissances, but to the new conditions of war.<sup>1</sup>

<sup>1</sup> In my work "The War of the Future," and in my lectures delivered at the Hague, both before the outbreak of the South African War, I pointed out that the chief change arising from the employment of smokeless powder would be the possibility of marksmen in good cover preventing all reconnaissance. I declared that under the new conditions the attacker would see nothing, and would barely hear the rifle shots which would stretch his scouts on the ground. These shots would alone tell him that the enemy was in the neighbourhood. But where exactly? At what point? At what distance?

The routinists tell us that they would send out their squadrons to reconnoitre. Yet Lord Methuen himself declared from personal observation that "it is impossible to sit on horseback at less than 2,000 yards from the enemy." Then the routinists declare that when infantry advance the enemy must disclose his position. But that this would not necessarily be so was seen long before the South African War. General von der Goltz quotes as a characteristic fact that during manœuvres held in Germany in the presence of the Emperor, surrounded by judges, soldiers ambuscaded 400 metres away on the margin of a forest were able to fire for a long time before their adversaries could determine whence came the fire. Therefore this was accepted as a feature of modern war in the German Army. We cannot put it down to the fault of the German commanders in not making proper reconnaissances. For authorities like von der Goltz cite it as a characteristic of the new weapons. Thus, years before the lesson of the Transvaal War was taught, we see it recognised by the best military writers of all nations that smokeless powder had made reconnaissance immensely more difficult than before. In real warfare the difficulty is, of course, infinitely greater. During manœuvres every inhabitant is a source of information. In actual war, on the contrary, the civil inhabitants fly or keep silent. In South Africa the British had numerous auxiliaries in the shape of the English inhabitants of the invaded countries and also the local Kaffirs, but nevertheless they suffered heavy defeats in consequence of the impossibility of obtaining information. What would be the result in the case of an invasion of France by Germany we may predict. As long ago as the war of 1877 Osman Pasha employed rows of marksmen sheltered in holes to prevent the approach of Russian scouts. There is no doubt that this system will be employed in future wars, and that all the roads and approaches to a position will be guarded



### ARE THE LOCAL CONDITIONS OF SOUTH AFRICA SO EXCEPTIONAL AS TO DESTROY THE APPLICABILITY OF THE LESSONS TAUGHT?

Before considering the problem which I have set, it is necessary to examine how far the lessons of the Transvaal War are applicable to

by marksmen hidden behind trees, inequalities of the land, and shelter-trenches, and much more systematically organised than were the Boers in South Africa. Nevertheless, the British suffered constant reverse from the invisibility of the Boers. At the battle of Stormberg the British advanced to within a few hundred yards of the Boers without seeing them, with the result that they were totally defeated, leaving a third of their force in the hands of the enemy. The correspondents declare that even after the Boers had opened fire the British found it quite impossible to locate their position. At Magersfontein the Highland Brigade approached to within 300 yards of the Boers without suspecting that they were within range, and lost a quarter of their effective from a few volleys. The description of the Boer position is worth quoting from the *Daily Mail* :—"The Boers occupied a large kopje, at the foot of which they had sunk trenches to the level of the veldt, and from there they attacked us vigorously. The trenches extended beyond the kopje on the level; they were hidden with brushwood, and those near the kopje were defended with a double wire network. While the Highlanders fought on the right, the Guards marched across the open plain towards the other trenches, and fought for 15 hours against an invisible foe." At the battle of Colenso the same thing occurred. The commander of the British artillery advanced his guns to within 300 yards of the river without seeing that it was filled with Boers, who immediately opened a fire so terrible that two batteries were lost. If such are really the conditions of modern war, what chance would German troops have of succeeding in their reconnaissances any better? None whatever; and facts prove it clearly. Those who are blind to the facts will declare, nevertheless, that Germans would succeed. If the British failed in the Transvaal, it is only proof, they say, that they were badly taught and negligent. That may be. Possibly at the beginning of the war the British did not understand the art of reconnaissance; but after three or four months? The war has now lasted twenty months, and the reconnaissances fail as much as ever. We must then either admit that the conditions of warfare are changed, or that the British officers are deprived of all intelligence. Yet these British officers, who we are told are impenetrable to experience and refractory to all teaching, belong to the aristocracy and upper middle classes—in short, to the most enlightened classes in the country, classes which everywhere, and particularly in England, have produced so many men eminent by energy and intelligence in every department of human activity, scholars, merchants, administrators; and these officers have behind them the practice of thirty years of warfare in every climate. What basis have we then for assuming that the Germans would do better?

The fact is, that it has been established for a long time that it is impossible to effect reconnaissances when the defender has skillfully organised the defence of the approaches. At Plevna the Russians, having taken the advanced Turkish trenches, suddenly discovered two other rows of trenches, until then invisible. All this is recognised in the German Army itself, where dogs are being trained to perform a work which is impossible for human beings. It is hardly necessary to show how even this means is inefficacious. First of all, in order to distinguish enemy from friend, the dog must be very near, and then it is easy for riflemen to kill them. It must be remembered also that the Boers often prevented reconnaissances, so to say, accidentally, for they lacked the regular organisation which the French would employ to form an impenetrable curtain in front of their forces. For instance, we are told, on good authority, that the Boers at Stormberg had no more idea of the proximity of the British than the British had of that of the Boers.

European conditions. The partisans of present conditions, who understand very well the importance which the new phenomena in the Transvaal War present for the future of war, attempt at any cost to explain the results obtained not by changes in the mechanism of war, but by the local conditions. These conditions, they tell us, are very different from those of Europe, both from the point of view of climate, configuration of the soil, and distances. This is very true, but the conclusion must not necessarily be drawn that the difference constitutes a difficulty in the way of an invader greater than could be met with in Europe. The climate of South Africa is in reality one of the best in the world, and it is much more temperate than a great part of Europe, which would be the theatre of a future war.

The same critics explain the long duration of the war by the topographical peculiarities of the country, and the difficulties which they present to an invader. I do not believe this argument has any value. If Northern Natal, the theatre of part of the operations be excepted, the greater part of South Africa is, compared with much of Europe, absolutely flat. Besides, it must be remembered that some of the worst British defeats were inflicted in flat country, such as Magersfontein. The Orange Free State, where the British lost innumerable guerilla actions, is entirely flat, and it is a fact that the Boer defence was often more effective in a flat country than in a hilly one.<sup>1</sup>

The best positions nowadays are open lines of heights and undulations of the ground, not standing completely alone, but standing one behind the other, so that infantry and artillery can mutually support each other from front and rear of the position, without one of these arms coming under the fire directed against the other. General Todleben, the defender of Sevastopol, recognised the valuelessness of the argument of difficult country; for when asked what was the best defensive country in the world, replied, "An exercise ground which is perfectly flat."<sup>2</sup> The same opinions are held to-day by the German General Schlichting.

<sup>1</sup> It is interesting to quote the opinion of von der Goltz as to the value of so-called "difficult country":—"The standard by which the value of ground is now estimated is very different from what it was in the past. Formerly, from the tactical point of view, the main question was whether the ground could be easily traversed. In choosing a position the chief thought was to have some important obstacle in front, which would delay the enemy's advance. Cover against fire was also sought for. Villages, woods, steep heights were regarded as strong points, or, as they were called, the keys of the position, by the seizure or loss of which the struggle was decided. Nowadays the chief point is to have a field of fire. Natural obstacles against the movement of troops are of importance only so far as they retain the enemy under a shower of projectiles. Soft ground, marshes, water meadows which are difficult to pass, vineyards, deeply ploughed fields which can be commanded by fire, are of greater value than any steep precipice difficult to climb. The best of all are wide-extending, bare, and low-lying slopes which can be completely overlooked, for there the enemy, though he finds no obstacle in his way, finds also no cover against the destructive effect of the weapons of the defence."—*Krieg und Heerführung*, 1901.

<sup>2</sup> What do we see in South Africa? In the first battles the Boers committed the mistake of entrenching themselves on hills, thus losing all the advantages of the level trajectory. Firing from a height they were obliged to estimate the

From all this I draw the conclusion that an European invader must meet with as great difficulties arising from the configuration of the country as did the British in South Africa.

#### DISTANCES FROM THE SEAT OF WAR.

A third explanation of the British reverses by those who refuse to recognise that the conditions of war have changed, is the distance of England from the scene of operations. But this objection really explains nothing. As mistress of the sea, England had no difficulty in sending troops to South Africa. It was for England merely a matter of money, and the prolongation of transport by some weeks. The difficulties arising from the length of the land communications really played a very small rôle.<sup>1</sup>

The difficulties of transport have, of course, been immense, but not comparable with those which an European Army would meet with in Europe, as the number of transport animals required will be much greater. In procuring horses, mules, and cattle, England has had no competition in the markets, and only the difficulty of bringing her purchases by sea to the seat of war, without re-acting in any way on England herself. The conditions in an European war would be very different.<sup>2</sup>

#### MISTAKES IN THE CONDUCT OF THE WAR BY BRITISH SOLDIERS.

There is nothing astonishing in the fact that Continental critics, in order to draw their own lessons from the Transvaal War, should insist so

distance almost to a yard. Now on a level plain the distance up to a certain point, say 600 metres, is a matter of indifference, as the ball flies almost parallel to the surface of the ground. At Dundee and Eland's Laagte the Boers made this mistake. In their later battles this was corrected, and they entrenched on the plain, choosing a locality where ravines, brushwood, and dispersed stones made the approach more difficult, thus retarding the British under fire. It may be concluded that the hills sometimes rendered services to the Boers by preventing their inferior numbers being attacked in flank and turned. But, in general, the fact is that a great part of France, Germany, Austria, Italy, and Russia, owing to their forests, mountains, marshes, and sands, present much more favourable defensive positions than South Africa. The walls and hedgerows which border the Continental roads also offer defensive obstacles which did not exist at all in the Transvaal.

<sup>1</sup> Until the recent Boer invasion nearly the whole of Cape Colony was under British control; the British disposed of the railways freely, and when they had passed into the enemy's country they disposed of the railways under exactly the same conditions as the Germans would in case of an invasion of France. Moreover, although the distance from the Orange River to Pretoria was considerable, it was not greater than the length of the German communications in a march to Moscow, that of the French in marching on Berlin, or that of the Germans if they wished to occupy the centre of France. But what it is more important to remember is, that the most serious British defeats took place when their lines of communications were shortest, as from Durban to the Tugela, and from Cape Town to Modder River.

<sup>2</sup> The German expeditionary force to China had to buy horses in America and Australia, paying for them as much as £80 a head.

strongly upon the defects of the British troops in South Africa; but that a considerable number of English writers and politicians should be of the same opinion is eloquent testimony as to the power of routine. Nevertheless, even these critics must ask themselves the question whether the reverses so much condemned are not the consequences of new conditions of war, and whether the German Army, for example, would have done any better.

To reply to that question, we have no other means than to interrogate the Army Regulations, and study in what consists the famous German superiority. The leading of the British troops was done according to English regulations, which are identical in principle with the German rules. But what, in reality, are these regulations worth? It must be remembered that many authorities have declared the tactical regulations as employed at manœuvres to be absurdly unfitted for actual war.

The Russian General Skugarewsky, the German Generals Pelet-Narbonne, von Janson, Müller, and Rohne, and the French Luzeux and Mignet prove their absurdities.<sup>1</sup>

The footnote below indicates a method of attack similar to that employed by the British troops at the beginning of the South African War; and you see the results. At Modder River, at Magersfontein, at Colenso, massed frontal attacks in close formation were undertaken, and failed utterly, although the British largely outnumbered the Boers.

<sup>1</sup> General Luzeux, speaking of France, makes this observation:—"Who has not been struck by the diversity of opinions which we meet in hand-books on questions involved in the essential principles of tactics? There is a chaos of ideas and principles in mutual conflict, and from this conflict there comes not a ray of light. Is it astonishing that officers say, 'What is the use of studying? Let the professors begin by agreeing among themselves.'" Another French author, Colonel Mignet, says that in reality the methods recommended by the official French regulations do not differ essentially from the tactics adopted after the invention of fire-arms and the adoption of the bayonet—that is to say, at a time when these rifles produced an effect about a hundred times less powerful than to-day. In the account rendered of the progress of the military service for the last twenty-five years, edited under the direction of General Pelet-Narbonne, we find this *résumé* of the regulations for attack:—"The firing lines will deploy at 1,600 metres. At the range of about 1,000 metres the fire will become general, volleys still playing a part in it. The advance to the main fire position, about 300 or 400 metres from the enemy, will, as far as possible, be made at the quick step. From the main firing position the firing line, reinforced by the reserves coming up to them, will attempt the decisive assault."

Among the methods of fire employed by the Russian infantry besides deliberate individual firing and rapid bursts of fire, an intermediate kind has now been introduced known as rapid individual firing. The advance is made quickly from a point about 1,000 metres from the enemy; over places swept by a heavy hostile fire the men run forward one by one. The troops advance to the assault without firing, and they rush forward not only with drums and trumpets sounding, but also singing their own war songs. During the advance in quick time in the firing line the rifle is carried at the slope over the shoulder; when moving at the double it is carried at the trail. Intervals of 300 paces are kept between closed lines. In the assault the rush forward with cheering does not begin, as was formerly ordered, at 50 paces, but at 100 or 150. If the firing line makes the assault alone, the men who form it, on the command from the officer "After Me!" close upon him and rush forward.

It is difficult to see wherein lies the boasted superiority of German methods when the essential part of the German method of attack broke down so utterly. The method which succeeded ultimately in South Africa in no way resembled the boasted German methods. It was the method which Lord Roberts devised to meet the new conditions of war—that is, the abandonment of frontal attack in close order, as in his own words:—"When I went to South Africa I laid down the rules that the files are not to be closer than six paces when advancing to the attack. That was very soon altered to ten, and then to twenty." But could, then, the German regulations be carried out in actual war?

#### FRONTAL ATTACKS.

It needs no words from me to prove that the difficulties of frontal attacks under modern conditions, as illustrated by the South African War, has long been foreseen by the less conservative military writers. Loose formations and the use of cover were declared to be the *sine quâ non*, without which a frontal attack, even with overwhelming numbers, could not succeed. The Prussian General Müller, an authority both in Germany and abroad, has told us that in order to avoid complete extermination soldiers cannot attack otherwise than in loose formation, and avoiding as far as possible the sight of the enemy; they cannot approach except in creeping, and hiding behind inequalities of the ground, digging themselves into it like moles.<sup>1</sup>

It may be remarked that this system had been employed also in England. Sir Howard Vincent, in his lecture delivered at this Institution a year ago, said:—"Seven years ago at Aldershot I started with a provisional battalion a 'creeping' advance in column of attack. It was not approved. It was made the subject of good-humoured caricature. The Army in the field is to-day being taught it."

Almost all military authorities were agreed even before the South African War that to approach an enemy established behind solid shelters, firing over distances measured in advance is nowadays one of the most difficult of operations, which will require days, and generals occupying high positions in France, in Russia, in England, in Italy, and in Germany declare that they will remain without results. To obtain a victory will be impossible, all affirmations made to quiet apprehensions, such as that the soldiers will fire badly, that the attackers will find cover, are either insincere or erroneous; and the result of the South African War proves that this objection has good foundation. Then we hear it objected that

<sup>1</sup>In 1898 an inquiry was opened in Germany, and the *Militär-Wochenblatt*, published by the German General Staff, gave the results. According to this report, the most favourable conditions had been chosen; a plain covered with herbs and free of stones 500 metres long, and the action of creeping had as result the swelling of the arms, hands and knees, the men being breathless to such an extent that they were unable to fire with the necessary calm.

the Boers are exceptional soldiers. But here again we find a false trail.<sup>1</sup>

If we judge by the experiences of the South African War, not a single assailant who marched to the attack in manœuvre formation would arrive alive at the trenches which they are expected to carry by assault. As the German troops have not carried out the war they can boast of their victories obtained at manœuvres, and deify as conquerors their generals, making believe that had they been at war with the Boers they would have gained great victories. But as they have not undergone this experience there is cause for doubt, not only for the reasons I have indicated, but also because if a war break out to-day after 20 months of experience in Africa the same mistakes and want of foresight which we have seen among the British would be reproduced by the Germans.

It is impossible to enter into details. I shall cite only one example. The first lesson of the South African War is that the essential is invisibility. Guns, lances, and belts have been painted khâki, the British troops have abandoned their showy uniforms, the officers abandon their swords and carry carbines. But what do we see in Germany? Gorgeous uniforms with showy lace are maintained, and at manœuvres one is stupefied by

<sup>1</sup> The method in which it may be effected is laid down by Janson. The first day the assailant will approach to the limit of the enemy's artillery fire, that is to say, about 5 kilometres, and towards the evening will push forward small bodies, for example, companies to the point where the infantry fire becomes efficacious (then 2 kilometres). These advanced troops will entrench immediately. These *points d'appui* form the line from which on the morrow the attack will start.

And what was to be the result? Favourable only when the defence was timid and inactive, a presumption, which, as General Janson says, it is impossible to make, even of an enemy. The routinists pretend that modern soldiers will fire so badly that the improved rifles will produce less effect than the ancient weapons, and that, in addition, troops taking the offensive will always find cover. The Boers, however, did not do their pleasure by firing badly; and in his report on military progress during the last 25 years General Pelet-Narbonne reduces to zero the argument. "If the great extent of the field of fire is the first condition of its efficacy, we cannot see why the attacked should renounce this first condition unless in order to please the attacker. The latter has not an opportunity for choosing ground offering natural cover, and he will be forced to march across a country exactly determined, thus helping the defender's fire." But it has been replied: Yes; but the Boers are exceptional marksmen, and it is to this rather than to their magazine rifles that they owed their success. This is only a pretext, or rather falsehood. The enormously increased power of the modern rifle was proved admirably in the war in Chili. In this campaign, where some of the Congressional troops had modern and the remainder obsolete rifles, it was shown that 100 men with the new rifle put out of combat 82 men of the Dictator's army, while 100 armed with the ancient rifle, only hit 34. These were not exceptional marksmen; but the fact shows well the immensely greater danger than in the past.

Now, as the manœuvre formations adopted in the earlier portions of the Transvaal War failed so utterly, we must conclude that manœuvre tactics in no way correspond to actuality, though they may very well serve the purposes of the great of the earth who wish to play at soldiers with living pieces, and enjoy the spectacle of war without its dangers and fatigues. From the practical point of view they signify nothing, but are even injurious.



the prodigies and aberrations performed by the military tailor with cloth, leather, and steel.

That the German Army manages its undertakings in no better way, may be seen from the fact that when some 15,000 men had to be sent to China the arrangements were absurdly impractical and absolutely defective.<sup>1</sup>

It will be objected that the German Army proved its worth in 1870. But that war was made under conditions absolutely exceptional, which will not be repeated.<sup>2</sup>

When we hear so much of the superior tactical training of the Germans as shown at manœuvres, it is interesting to point out how

<sup>1</sup> It is interesting to read the remarks of the Special Correspondent of the *Frankfurter Zeitung*, an officer of position and a distinguished soldier:—

"Examine the uniforms of the troops sent into the hottest country at the hottest time of the year. The straw hats which were supposed to be modelled on the headgear worn off duty by certain English and American troops, and which, notwithstanding their defects, seem to have cost too much, were all right for a summer walk in Germany, but in no way suitable for a country in which it is necessary to protect the head as much as possible against the penetrating sun rays. The helmets worn in the tropics are an inch thick. The wonder is, therefore, that we have not had to record a great number of sunstrokes, and, indeed, we should not have had such good fortune if the troops arriving in such headgear had had to engage in a really serious campaign. The khaki uniforms with which our men were provided were probably the worst ever seen in China. They were really not khaki, but a yellowish drill, which after a short time rang the changes in all colours, and after being several times washed repeatedly returned to their original dirty white, and gave up all pretence of being khaki. . . . At least a part of the disease, so rife among the troops at the outset, must be attributed to the neglect of proper precautions. . . . The Japanese coolie company was got together under absolutely unheard-of conditions. . . . The supply department had work imposed upon them which was absolutely beyond their power. It is a good thing that we have been able to learn this lesson in China without getting it in the first instance in a *European* war."

<sup>2</sup> "We shall not recognise our ancient enemies the next time," said von der Goltz. And, indeed, in 1870, according to the work of the German General Staff, the Germans put into the field a little more than 1,200,000 men against 336,000 French. The losses of the Germans in this war, nevertheless, reached the figure of 127,097 men, according to their own statistics. Comparing this figure with the effective total of the men in the field, it seems only a small percentage. But this method of test gives absolutely defective results. When we analyse the losses, we see that 180,000 Frenchmen operating in the earlier battles and engagements in a month and a half put out of action 87,000 Germans, principally with their rifles, since the French artillery was ineffective.

At St. Privat there were 280,000 Germans with 760 guns, against 150,000 Frenchmen with 530 guns. At Sedan there were 240,000 Germans with 725 guns, against 124,000 Frenchmen with 330 guns.

I ask, What would have happened if in place of mitrailleuses and defective guns, and even of the Chassepot, the French had employed small-calibre rifles on a smokeless field of battle? And what would have been the result if the French had been properly equipped with spades, and, being inferior in numbers, had raised entrenchments at the first moment of mobilisation, as they would do to-day, and the Germans, instead of advancing rapidly, as in 1870, had been obliged to rest in one place?

"There still remains in our conception of campaigns the idea of rapidly progressing manœuvres, decisive conflicts upon the battle-field following one another in

insignificant was the part played by the trained soldier during the South African War. In the first place, we see that the Boers who defeated the first British attacks had no training, German or otherwise; and, secondly, we see that the British only defeated the Boers when they had sent out enormous reinforcements, the greater part of which had had no manœuvre training at all. The whole of the South African War proves not only that in consequence of the employment of rapid-firing rifles and smokeless powder, and of the universal employment of entrenchments, the methods of offensive warfare employed to-day have become inefficacious, but also that the professional soldier no longer possesses his ancient superiority over the armed civilian who has undergone the shortest course of training. The excellent defence of the Boers is enough to prove that it is not trained soldiers manœuvring with mechanical precision under the direction of commanders bestarred and belaced who are the best. It may be objected to this that the local conditions were so favourable to the Boers that their successes prove nothing in regard to a Continental war. We have tried to prove the contrary, but let us take the point of view of our opponents. We have a still better occasion to compare the merits of the regular soldier with those of the untrained man, gifted with an intelligence which has not been stunted by instruction based upon regulations and absurd manuals, for the British forces in South Africa contained a great number of soldiers belonging to both categories. On the one part, we find the Regular Army rigorously trained, and with a certain experience of war; on the other, we see a heterogeneous collection of Colonials and English Yeomanry, of whom nineteen-twentieths had never before fired a shot at manœuvres. What is the result of comparing these different types? We find that the almost unanimous opinion of competent authorities, of generals, correspondents, and soldiers themselves, is that the civilians were infinitely more useful than the Regulars. But the best proof of this is the fact that the British Government, instead of raising new battalions of Regular troops in order to reinforce the South African Army, prefers to send out Colonials and untrained Englishmen whose only qualification is a certain skill with the rifle and some knowledge of horsemanship—the latter, of course, for specific local reasons. We even find some of the Colonials so convinced of the inferiority of the training of the Regular Army that they have refused to serve under British officers, and public opinion in England has supported their action.

In action these civilians seem to have been superior to Regulars: their shooting was as good, I shall not say better, since at great distances and against an invisible enemy it is the number of rounds fired in a unbroken succession, swift penetration deep into the heart of the enemy's country, and as a result the obtaining of a quickly won and favourable peace. So it was in 1866 and 1870, so it is hoped for in the future. But we must recognise that we had in 1870 in the first period of the war an extraordinary superiority of numbers on our side, and in the second period the marked inefficiency for action of the enemy's armies. But to-day France, Austria, Italy, and Russia have zealously followed up the progress made by Germany in the training of her soldiers. On all sides the actual efficiency of the troops is ever becoming nearer that of our own, and all must finally reach the same state of progress."—VON DER GOLTZ, *Das Volk in Waffen*.

certain time, and not the aim, which tells. They took cover more skilfully, and they displayed a greater individual intelligence; they were more independent than their officers, never falling into the panics which dispersed the Regulars at Stormberg, Magersfontein, and elsewhere. Kimberley and Mafeking were defended chiefly by civilians against forces proportionally much greater than those which attacked Ladysmith, which was defended by Regular troops. Nor did the civilians surrender so easily, or in such great numbers, as the Regulars. Their improvised defence of Wepener was one of the most remarkable exploits of the war; under precisely the same circumstances the Regulars surrendered time after time. At Paardeberg, when the Regular troops had been driven back with enormous losses from Cronje's trenches, it was the Canadians who delivered the final attack which preceded the surrender. In short, the whole history of the war proves that civilians possess all the best qualities of Regular troops, their discipline and courage, and much more intelligence, initiative, and endurance.<sup>1</sup>

It is easy to explain this superiority of the civilians over long-service Regulars by the conditions of the modern battle-field. In consequence of the dispersion of the men it is quite impossible to maintain the mechanical dispositions which are taught on parades and manoeuvres. Under such circumstances officers cannot direct their men effectively, and as the men are not trained to use their individual judgments they tend to turn into a flock of sheep. The capacity for individual action becomes enfeebled in proportion to the training which the soldier receives. Thus if his officers are too far away to give orders, the Regular is at a loss what to do. But the intelligent civilian, whose capacity for action has been developed by his habits of sportsman, farmer, and artisan, and who is accustomed to use his own faculties independently, fights very well without orders. He is primarily better material, and as on the battle-field the order of the parade ground is dislocated, the question of superiority is decided by the faculty of initiative alone. It is this, we must recognise, which makes the superiority of the Boers over the British. And it is this no less which accounts for the superiority of the British civilian over the British Regular.

All this leads to the conclusion that it is not the mistakes made in the conduct of the war by the British troops nor the qualities of the Boers (who, indeed, have shown an entire lack of rational strategy and tactics), which has produced the results which we see on the theatre of war. It is smokeless powder, and long-range quick-firing rifles, which involve dispersion and invisibility to a degree unheard of formerly, and to the possibility of putting a larger number of cartridges at the disposal of the riflemen. In consequence, there is no reason for supposing that French soldiers, defending their country, would prove inferior to the Boers, their quasi-superiority of fire being only a false scent.

<sup>1</sup> It is quite true that many of the Volunteer Yeomanry lately sent out from England were complete failures. But this was not because they were Volunteers, but because they were men of bad physique, taken from the wrong class, and primarily bad material.

THE ACCUSATION BROUGHT AGAINST THE BRITISH TROOPS  
OF WANT OF FIRMNESS.

But we see the British troops accused of want of endurance, and it is, indeed, a fact that on several occasions after insignificant losses they have retreated and surrendered. We even see an order issued by Lord Roberts to the effect that British soldiers raising the white flag will be court-martialed—an order which has had the effect of increasing the accusations of cowardice brought against the Army. But the fact is, as I pointed out in my book, that the new conditions of warfare are such that although the losses sustained are small when compared to the total number of the troops, these losses are, nevertheless, of such a character that no civilised troops could sustain them without losing *moral*. This fact has been well known for many years past. General Kuropatkin, now Russian Minister of War, who took part in the war of 1877, expressed the opinion that "Troops do not give way so much owing to an inferiority of number, which forbids them holding on (they might resist even after losing 75 per cent. of their effective), or in consequence of the losses which they have sustained, but owing to fear of losses which they expect if they remain where they are, or continue the attack."

The space of time in which the losses were inflicted is also a most important factor, and we know that in most of the cases in which the British gave way in South Africa the losses were inflicted very suddenly and in a very few minutes.<sup>1</sup>

<sup>1</sup> In the second volume of my book I dealt especially with this subject. I set the question: What will be the moral state of armed masses in the present new conditions of war, in the event of defeat, and even in case of victory, if the battle be a long one, as must be expected? I attempted to search for statistics elucidating this problem, and took separately the constituent elements of the different nations, regarding also the modifications which have taken place in the composition of troops, armaments, and tactics. But I came to the conclusion that while it is possible to deduce from these statistics a comparison of the different qualities possessed by one or another armed nation, it is difficult, and even impossible, to formulate with any simplicity, an appreciation of the whole; all the more so as these moral conditions will be different in a defensive and an offensive war.

For the sake of simplicity I tried to determine in approximate figures the different characteristics of the troops of the various Powers from the double point of view of their employment in attack and defence. I used here a procedure applied in the statistics relating to the morals, education, and sanitary condition of the various countries, and made comparisons expressed in figures which represent the comparative value of the different armies in attack and defence. For unity of comparison, I took the figure 100 to express the maximum of each quality which goes to make up what is generally called the *moral* of an army. These qualities are:—1. Capacity to adopt oneself to a new situation. 2. Composition and recruitment of officers. 3. Faculty of initiative. 4. Endurance under fatigue and privation. 5. Discipline. 6. Absence of egoistical tendencies dangerous to the general good. 7. Confidence in commanders and comrades. 8. Age, spiritual condition, and manner of recruiting of men. 9. Confidence in the value of their armament. 10. Courage.

I did not at that time occupy myself with the British and Boer armies, having then no motive for doing so. If I made such a comparison to-day I should say that in all cases the British Army was infinitely superior to the Boers, who have no discipline, and for the offensive were almost useless. But it is that which made their success.

The opinion of the Austrian Attaché, Captain Trimmel, shows the *moral* of the British soldier in the most favourable light. He says:—"In face of the Boers, soldiers by birth, the British soldier was evidently in a difficult position. But it would be a mistake to think the latter mediocre. Calm, insensible to danger, gifted with great *sang-froid*, strong in moments of reverse, sustaining privations bravely, obeying his officers blindly—such was the British soldier, and to a great extent the Colonial. The high moral qualities of the British officers have never been denied by the greatest enemy of England. They possess a great firmness of character and a profound practical sense. Their moral value was shown most in the day of defeat."

And I may say also that this testimony was given after a year and a half of warfare, and it is an incontestable fact that the longer a campaign lasts the more a disciplined army deteriorates, and, on the contrary, a guerilla army, like that of the Boers, improves.<sup>1</sup>

An English general expressed the opinion that, in order to develop courage, it was necessary to have spectators. But the soldier in a modern battle must perform his act of courage far from the eye of his commander, and sacrifice himself without being seen and without any other motive than patriotism. Of course, when it is a matter of defending the country from invasion, as, for example, in an invasion of France by Germany, the French soldiers would be marvellous. But can we count upon such manifestations of courage for a secondary object? And there exists no serious motive for war, as I should in the sixth volume of my work, while showing the possibility of resolving the questions by an arbitral tribunal. For in an offensive war there will be no other objects. There certainly exists no Army with men braver, and more contemptuous of death, than the Russians. Yet what do we see? M. Botkine, the celebrated professor and physician of the Emperor Alexander II., during the war of 1877, at a time when rifles and artillery were much less murderous than to-day, and smokeless powder did not exist, wrote:—"The heroes have had their day, they have lost their prestige, since each knows that heroism has no longer any importance."<sup>2</sup> Botkine wrote later, after the unfortunate assaults on Plevna, as follows:—

<sup>1</sup> "The commander of an army can alone protect it from that greatest enemy of civilised soldiers—weariness of war, and indifference as to its results. . . . It is worth bearing in mind the teaching of history that the Armies of modern military States, well disciplined though they may be, but trained in the systematic school of peace, gradually depreciate in a lengthy war, while hastily assembled levies, if successful in the field, improve with time. We see examples of this not only in the case of the armies raised by the first French Republic against the Coalition, but also in the American War of Secession, and in a special degree in the levies of the French after Sedan. . . . In such case field experience provides the training. . . . They begin as volunteers and conscripts, but in the end they become soldiers who are often proved victorious over their better trained adversaries. But the soldiers of a Regular Army, accustomed to quite another state of things, do not easily find themselves at home in dealing with such national levies."—VON DER GOLTZ, *Krieg und Heerführung*.

<sup>2</sup> Letters from the theatre of war, 1877-78.

"Sklifassovski (Surgeon-in-Chief of the Russian Army before Plevna) says that one could form a whole regiment of men who have simulated wounds, or have wounded themselves in the fingers, after the example of the Servian soldiers. In this there is no cause for astonishment: the soldier sees in the Turk a stronger enemy than himself; the Turks are sheltered behind earthworks and their arms are superior to ours. . . . But one dare not speak of these false wounded in the reports any more than one can speak of deserters. Each officer thinks it his duty to say that, in spite of the great losses, the *moral* of the troops is excellent, that they reformed in good order and singing. However courageous men may be, however excellent their *moral*, these qualities need to be fed by success. But under present conditions where we are beaten everywhere, these qualities are exhausted, and the bravery and power of resistance of the men have disappeared."

In the Transvaal War, and for the reasons already enumerated, the British have been in much greater difficulties than were the Russians before Plevna. We remember that the Highlanders lost 670 in three minutes. In my pamphlet on "The Transvaal War and its Problems," I said:—"It may very well be that less cultured soldiers and officers than the English could stand even more than they, but in the course of the shortest time all, to the very last man, would be killed. Therefore, before bringing accusations, it would be wise to consider every separate occasion, and in the great majority of cases I am convinced that, instead of condemning those who have surrendered, it would appear to military men worthier to cry 'honour and glory!' and to express gratitude for the moral courage which refuses to sacrifice innocent men in vain. Once it is impossible to obtain results, every man lost means simply murder, which is all the more shameful since such murder is not only unpunished, but glorified as heroism." And I have not changed my opinion.

#### THE PRETENDED DEFECTS OF THE BRITISH ARTILLERY.

Still another subterfuge is used to explain the results of the battles of the South African War; that is, the pretended defects of the British artillery and of its service. Now, as it is admitted that without the support of artillery, infantry, even in inferior numbers, cannot be dislodged from a strong position, and as the Boers fought almost always behind shelter, a sufficient reason for the British reverses is found in this.

Owing to the English practice of carrying out the artillery preparation by itself, and holding the infantry back, the Boers were never forced to leave their cover and show themselves. If, as is directed by the new German Regulations for Field Artillery, the British had felt their way by pushing forward and engaging their own infantry simultaneously with their artillery preparation, they would have compelled the defenders to man their works and show their troops. Thus many serious disasters would have been avoided.—*Militärische Jahresberichte*, 1900.

Let us examine how far the reproach against the British artillery is well founded. The first thing to be noted in this respect is that the British in the majority of the actions in which they suffered reverse had infinitely



more numerous and powerful artillery than the Boers; so that when the British defects are explained by the insufficiency of their artillery we are reminded of the answer given by the huntsman to his son, who asked what he wanted the shot for. "To kill the bird," answered the father. "But the bullet?" "To kill it deader still." The fact is that in most of the battles of the war it was not the deficiency of the British artillery which led to reverse, but the absolute impossibility of employing that artillery, which as far as numbers and weights go, was plentiful. The British artillery in South Africa was more than sufficient to destroy all the Boers in the field several times over. But, in fact, it seems to have caused scarcely any loss to the Boers at all. The reason of this is obviously the perfection of the entrenchments employed, and the fact that artillery fire against entrenchments has practically no effect. If the failure of the British artillery was due to its inferior quality or defective service we should have expected the Boer artillery, at least, to have caused heavy loss to the British. In fact, however, the Boer guns when turned against British entrenchments caused absurdly small loss. The losses of the 4 months' bombardment of Ladysmith amounted to no more than 250 killed and wounded. The artillery on both sides was indeed sufficiently powerful. But the whole course of the war shows that the first effect of smokeless powder is to make it impossible to determine the exact position of the enemy's entrenched riflemen.

Two facts prove in the most decisive fashion the destructive power of modern artillery, and at the same time its absolute powerlessness against good entrenchments—that is to say, the siege of Cronje at Paardeberg, and the attack carried on by the Boer artillery against Spion Kop.<sup>1</sup>

<sup>1</sup> These two attacks offer certain points of resemblance. At Paardeberg the Boers had 4,000 men; the British on Spion Kop were about equal in numbers. In both cases the defenders were narrowly packed into a very limited space. But the Boers fortified Paardeberg, whereas the British, owing to the rocky nature of the ground and other circumstances, found it impossible to raise entrenchments at Spion Kop. During ten days the Boers at Paardeberg were exposed to the bombardment of from 50 to 100 guns. They lost only 179 men, the greater part of whom must have been wounded during the abortive infantry attack. They were thus perfectly protected by their entrenchments, which were inaccessible to projectiles. At Spion Kop, on the contrary, the British were subjected to the fire of only 7 guns, and they were not bombarded for more than 24 hours, yet they lost nearly 1,500 men, mostly from this artillery bombardment. At Paardeberg the British had ten times more guns than the Boers had at Spion Kop, and their bombardment lasted ten times longer. By taking each cannon and each hour as a unit, we find the British bombarded the Boers with 18,000 hours' cannon, and the Boers only 168, yet the Boers lost only 179 men and the British 1,500—that is to say, the British bombardment was 900 times less effective.

Calculated mathematically, the British had 100 times more chance of destroying the Boers at Paardeberg than the Boers had of destroying the British at Spion Kop. Calculating on the experience of Spion Kop, the British artillery at Paardeberg ought to have destroyed 150,000 Boers.

Yet the result of the employment of this vast machinery of destruction, being employed against well-built entrenchments, was to cause the Boers a loss of about 40 men. For it may be assumed that the rest of the Boer losses were suffered, as I have said, during the infantry attack which preceded the investment.

The hope cherished by soldiers of shaking the defenders by the use of explosive shells has also been proved to be a deception, not only in consequence of the difficulties in determining the enemy's position, but still more to the ingenuity of the Boers,<sup>1</sup> which will certainly be emulated in a future Continental War.

But, in fact, the experience of the Russo-Turkish War was such as to make this result foreseen, but as it was not convenient for soldiers to admit that infantry attack had become immensely difficult, and that, therefore, war was practically impossible, it was paid no attention to. "At Plevna," says General Todleben, "we fired on the entrenchments for a whole day in order to kill a single Turk." We find the same phenomenon repeated in the South African War, in spite of all the improvements in artillery and the employment of explosive shells. All combinations founded on the efficacy of artillery for shaking men on the defence broke down before this cardinal feature of the war—the invisibility of the enemy. The Austrian *attaché*, Captain Trimmel, in his lecture on the South African War, says that at a certain moment at the battle of Waterwaalsdrift he stood with the American *attaché* between the lines of the two armies. He could see nothing either of the British or of the Boers, and had it not been for the noise of the firing he would not have believed himself to be on the field of battle.<sup>2</sup>

These facts upset the explanations which are given of British reverses by attributing them to the insufficiency of the artillery. The material was more than sufficient, and the tactical principles of the British field artillery are in general the same as those accepted in all the Armies of Europe. Employment of masses of guns, unity of fire command, employment of the ground to bring the batteries into action under cover, co-operation and mutual support of the various arms—these are the maxims that hold the chief place in British tactical exercises.

<sup>1</sup> From the reports written in South Africa we find the Boers using the following devices in their entrenchments:—They constructed traverses at short intervals to prevent enfilading, and to limit the effect of explosive shells. Their bomb-proof shelters were constructed after the model of a bottle with a narrow opening, so that a shell could enter only by chance. Other trenches were constructed in a sinuous line, and a shell bursting in such a trench could wound only the two or three men in the section in which it fell. In addition, they dug caves in the fore parts of the trenches which were completely bomb-proof. These trenches were invisible, and masked by brushwood and other objects, so that there were 1,000 chances to 1 against any shell falling in them. Even when a shell did fall, the method of construction was such that its effects were confined to the actual point of fall.

<sup>2</sup> Captain Trimmel says:—"The fire of the British was generally inefficacious, owing to the difficulty of appreciating distances, for it was never possible to see the enemy's fire (except at night). This want of effect arose also from too high bursting of the shells, sometimes at from 80 to 100 metres, the fragments being then no more dangerous than stones. The lyddite shells were of little use against troops in loose formation, and the murderous effects expected were not realised. The artillery fire was generally opened by the naval guns at between 9,000 and 11,000 paces, and then continued by field guns up to about 4,000 paces, then ceasing. Experience shows that guns which approached closer were too exposed."

The British artillerymen were professionals, and thanks to their national aptitude for mechanics they ought to have been better able to serve their guns than the soldiers of other nationalities. And the military authorities who have devoted themselves to the study of this question declare that three months are sufficient to make excellent artillerymen.

#### THE SUBTERFUGE OF CONDEMNING THE BRITISH COMMANDERS FOR NOT EMPLOYING TURNING MOVEMENTS.

Still another reproach brought against the British commanders is that they did not employ till too late the tactics afterwards adopted by Lord Roberts of turning the enemy's position. The routinists, who wish to explain the failures of the British by the defects in their training, say that the Boers held themselves upon an absolutely passive defensive, based exclusively upon their fire and material obstacles. They filled their trenches with riflemen, and used their arms with a veritable mastery; but they remained fixed to their posts, had no reserve to send to the counter-attack, no men to repair local defections, such as that which took place at Modder River. All was preconceived in their defence, which consisted merely in barring the road to the enemy, and not in beating him. Any Continental Army, we are told, would have beaten the Boers long before, and the war would have been over long ago, and never have taken the character which it actually did. But it is a great question whether the mistakes of the Boers were not really a part of their safety. First, if instead of putting in action all their rifles, they had kept reserves, they would have diminished the strength of their firing line, and it is the number of shots fired, their *rasance*, and penetration which tell. The Chilian War, moreover, showed the danger to which reserves are exposed from shots fired too high, sometimes more than the attackers. All past theories as to the employment of reserves must undergo a change. As concerns turning movements, even admitting, what I do not wish for the moment to dispute, that there is a certain amount of truth, still the methods recommended have no importance for the war of the future. No European Army would follow literally the tactics of the Boers. By the force of things, having armies composed of millions of men, they will have reserves; only I must repeat that they will be unable to use them in battle, though they will be used to oppose turning movements. General von der Goltz, in his last work ("Krieg und Heerführung"), which appeared only a few weeks ago, and who, therefore, had the consequences of the Transvaal War under his eyes, says that "of a hundred attacks intended for turning movements, experience goes to show that eighty end by coming upon the enemy's front." We see this already at the great peace manœuvres, but it will happen more generally in war.

The South African War furnished us with examples of this situation before the superiority of the British became overwhelming to a degree

impossible in Europe.<sup>1</sup> But if both frontal attacks and turning movements are impossible in Europe, how can aggressive war be carried out?

RÉSUMÉ OF THE LESSONS OF THE SOUTH AFRICAN WAR AS TOUCHING  
UPON THE PROBLEM<sup>2</sup> OF A GREAT EUROPEAN WAR.

From what I have already said, it seems to me evident that the lessons of the Transvaal War are applicable to a war in Europe—that is,

<sup>1</sup> In Natal, General Buller had a great numerical superiority. Nevertheless he failed twice in his attempts to turn the Boer flanks in consequence of the presence of strong natural fortresses on their flanks, and in consequence also of the rapidity with which the Boers, on interior lines, changed front, and turned what ought to have been a flank attack into a frontal attack. For Lord Roberts' turning movements to succeed it was necessary to have a force which at the beginning the British did not possess.

After deducting 40,000 men for the line of communications, and making allowance for corps that were under full strength and men in hospital, Lord Roberts had 134,000 men fit for the line of battle. But Lord Roberts, before attempting a movement against Cronje's camp at Magersfontein, which was defended by 6,000 or 7,000 men, had to create an army of 70,000 men, or 10 to 1. All the battles on the road to Bloemfontein and Pretoria were of the same character; the superiority of the attack was always 4 or 6 to 1. The method of attack was always the same. The Boers were bombarded or attacked in front by infantry, and enormously superior forces of cavalry, or, more correctly, mounted infantry, were marched round their flanks to menace their line of retreat and to cut them off, as they had cut off Cronje at Paardeberg. In this fashion the Boer were obliged to evacuate their positions one after the other, after slight losses on both sides. Nevertheless they invariably retired in good order, carrying away their transport and guns, though the latter were heavier than the British guns.

Now, it is clear that such methods could not be employed in a Continental war. In the first place, no Army will possess the enormous numerical superiority which such a method demands, and if, thanks to more rapid mobilisation, a Continental Army enjoyed for a few days a considerable numerical superiority, even if it could turn the flanks of its adversary and surround him, it would be impossible to starve him into surrender or destroy him. At the end of a few days it would find itself in the position of the Boers at last before Ladysmith, who found themselves forced to raise the siege and decamp before the threat of the British forces marching to the relief. But this change of situation in Europe would take place in a few days, instead of, as in Natal, a few months. Another difficulty also stands in the way of turning movements in Europe. If Lord Roberts was able to turn his great numerical superiority to profit in order to turn the Boer positions, it was because he operated on territory where the defensive found no protection for their flanks. In Europe the situation will be very different; the fortresses established on all the frontiers, and the natural obstacles, constructions, hedgerows, and walls will permit an army numerically inferior to occupy positions which it will be impossible to turn. Thus, just as the South African War proves that frontal attacks without an impossible superiority of numbers are impracticable, it proves no less that successful turning movements can be made only under conditions which are rarely found in Europe, that is to say, a large initial numerical superiority, and the absence of fortresses or strong natural defences on the defenders' flank. The resources and conditions of which Lord Roberts availed himself in order to turn the Boer positions do not exist in Europe.

of course, if they are applied with due prudence. The local conditions, whether climatic or topographical, and the great distance from the base do not prohibit this. None of the explanations given of the long duration of the war and the serious consequences which it has entailed for England—that is to say, the supposed imperfections of the British soldiers in the conduct of the war, want of endurance and of courage, insufficiency of material, defects of the artillery, and the too late employment of turning movements—are in any way justified. I do not believe that any other Army in the same condition of inexperience, guided by philosophical speculations drawn from manœuvres and the wars of the past, would have done any better; on the contrary, it is probable it would have entirely failed. It required the great experience acquired in foreign campaigns, as well as the immense material resources of England (and let me say, also, the moral qualities of the English people in supporting difficulties without murmuring and without internal revolution) to arrive at even the point at which England is at the present moment.

But whatever be the opinion upon this question, it is evident that the main lesson to be drawn from the Transvaal War is that it is absurd to suppose that, whatever combinations be formed by any State or alliance of States, the results of a war of aggression can be regarded as hopeful against any great Power, or still more so against an alliance of Powers. That this lesson has been appreciated at any rate in some quarters in England is shown by Mr. Brodrick's declaration, that the result of the Transvaal War showed that troops holding themselves on the defensive, and armed with modern weapons, can resist a long time an enemy much more numerous, and inflict upon them terrible losses.

I will attempt briefly to indicate the reasons which have led to this state of things. At first there are the improvements in armaments, the introduction of smokeless powder, all turning to the advantage of the defence.<sup>1</sup> The consequence of this increase of the power of the

<sup>1</sup> The Transvaal War furnishes lessons very precious in all its phases: first, when the British forces were numerically inferior, and the Boers took the offensive; secondly, after the stoppage of the Natal invasion, when the British with superior forces attempted a counter-attack; and, thirdly, at the time when the British forces were ten times greater, and the war took the character of a national struggle. In fact, what have we seen? When the war broke out in October, 1899, the British forces in South Africa did not amount to more than 22,000 men. These troops were scattered over the whole surface of an immense semi-circle, extending from Northern Natal along the frontier of Cape Colony to Mafeking on the western border of the Transvaal. Strategically, the Boers had the advantage of holding the inner line, and they were able to concentrate their forces in order to attack the British. The exact number of their forces to this day is not known, but they reached at least 35,000—that is to say, 60 per cent. more than the British, and probably were 45,000, or 100 per cent. more. Most of these men had been mobilised and sent to the frontier before the beginning of operations. According to the ancient conditions of war, they had therefore every advantage. Nevertheless, their invasion of the British colonies failed utterly. They, indeed, gained many tactical advantages, but these were only in isolated battles where the British took the offensive. Strategically, the Boer invasion was stopped everywhere

defence is that the duration of a war must be very great. It must be foreseen that any attempt at invasion would fail infallibly in con-

when it came into contact with inferior numbers of British behind entrenchments. The invasion of Natal was stopped at Ladysmith by an inferior British army. In the west the Boers were stopped at Mafeking and Kimberley. In Cape Colony they were stopped at Colesberg and in the Stormberg district; and yet on each of these theatres of war they had at first superior numbers. This check to the Boers must be attributed to one of two causes: either the inferiority of the Boers as soldiers, or to the inherent difficulty of attack under modern conditions. Now the fact that the Boers were not on the whole inferior to any disciplined Army is attested not only by the British themselves, but also by the disastrous reverses suffered by the British when they took the offensive. We are, therefore, compelled to conclude that the first period of the war confirms my thesis that modern arms have rendered attack much more difficult than it was formerly.

But if the failure of the Boer invasion proves this difficulty of the offensive, the second period of the war is a still better proof. While the Boer invasion was being stayed by inferior British forces, considerable reinforcements were arriving from England, and a few weeks after the outbreak of war the Boers were largely outnumbered. Convinced of the impossibility of continuing their invasion they took up strong defensive positions to the south of the besieged towns. In these positions they were attacked again and again by British forces much superior, and, nevertheless, they not only maintained their positions, but repulsed the British with heavy losses. In Cape Colony they drove back General Gatacre, and stopped the British advance for three months. At Magersfontein they defeated superior British forces in such a way that no further operations were undertaken in the district until the arrival of reinforcements had given the British a superiority of 10 to 1. In Natal they repeatedly repulsed General Buller on the Tugela. At Colenso the British had 20,000 men, and the total number of Boers in Natal does not seem to have been more than 15,000, of whom a large number were engaged in watching Ladysmith. According to Boer reports the British had a superiority of 3 to 1. Yet three times they drove much superior British forces back over the Tugela, and it was only when a large number of Boers had been withdrawn to the assistance of General Cronje that the British advance was continued successfully. On 6th January the Boers made a desperate and well-prepared attack on Ladysmith, which failed, as all frontal attacks failed in this war. But everywhere they defeated the efforts of superior British forces to dislodge them from their positions.

The first two periods of the war teach, therefore, the same lesson. In the first period the Boers, with a numerical superiority, attacked inferior numbers of British, and failed entirely. In the second period the British, with a considerable numerical superiority, counter-attacked with the same result.

All these facts taken together point only to one conclusion, and that is that the difficulties arising from the improvements in modern arms have rendered attack almost impossible even with a great superiority of forces. This superiority the British possessed, but the conditions could never be repeated in a great European war between Great Powers. In fact, while the Boers at once sent all their men into the field the British, thanks to the resources of their vast Empire, were able to augment their forces, so as to ensure a superiority in numbers far greater than would be possessed if all the Great Powers of Europe were to form a coalition against a single one. Towards the middle of February, 1900, when the Boer forces were probably reduced to 30,000 men, the British had in South Africa an army of 200,000, that is to say, in the proportion of 7 to 1. Yet incredible as it may seem to one who has confined his study to the wars of the past, it is, nevertheless, true that in spite of desperate efforts the British never occupied a foot of Boer territory until they possessed this superiority of 7 to 1. Then only they were able to advance with success; and they required 60,000 more men to complete the



sequence of the economic and financial perturbations which would follow in its train. The invader, while still having enough men and arms, must

invasion and to begin the third period of the war. But this period is not less instructive than the two preceding as to the advantages of the defensive. The British, though they lost several isolated detachments, seemed to triumph everywhere. An army of 60,000 men was able to deliver Kimberley and to capture Cronje's force, though, indeed, only because Cronje had committed unpardonable mistakes. From Kimberley the march was continued to Bloemfontein and then to Pretoria, which was occupied in June nine months after the opening of hostilities. During this advance the Boers were always in enormously inferior numbers, and they were forced to evacuate position after position, but they succeeded in inflicting some loss upon the invaders, and always managed to withdraw their men and guns in safety. After Cronje's surrender the British never succeeded in making at one time a large number of prisoners or in inflicting heavy losses upon the Boers. The war, therefore, we see never entered upon the decisive path expected by military men, who judged simply by the experience of past wars in which a serious defeat or the loss of a fortress changed the face of affairs, and allowed the victor to march straight into the enemy's country. Four or five times, notably after the capture of Cronje, the occupation of Bloemfontein, the entry into Pretoria, and finally after the successful march of the British to Komati Poort, the British critics announced confidently that the war was over. But these critics neglected two factors of the new situation, the one a military and the other a psychological factor. The military error was the more excusable. For judging by the past the critics thought that a beaten army and occupied capitals must lead to the submission of the enemy. They left out of view completely the fact foreseen by those who had studied the effect of improved armaments that these weapons not only make the defensive much easier than before, but are extremely favourable to the carrying on of partisan warfare, making the nation *en masse* much more redoubtable than formerly. Thus a year after the occupation of Pretoria we see the Boer army, which does not now number more than 15,000 men, holding the field against 250,000 soldiers, in a country which is called conquered, but is actually unconquered outside the railway lines, and these handful of Boers have made it impossible to set up any kind of civil administration in the country.

Such was the military delusion. But there is a perfect analogy between the military and psychological delusions. For while the military experts ignored the fact that smokeless powder and improved fire-arms had rendered the defence much easier than before, the political experts ignored a prime factor in the social development of the last century—that is, that the increased spirit of nationality which is shown everywhere makes an armed nation much more dangerous than before. The political experts ought to have foreseen from a moment's study of this factor that the Boers would display the highest ardour in defending their independence. Now the refusal to treat with the Boers, as ought to have been done after the occupation of Pretoria, changed the character of the war entirely, and gave birth to the new period of defence, the fourth of the war. The national war had begun.

The advantages of the defensive are still more manifest in this period than in those which preceded it. Everywhere we see handfuls of Boers capturing isolated British detachments, seizing convoys, cutting railways and telegraphs, and making the provisioning of the British so difficult that many have been on half rations for a great part of the time.

The British, as the *Times* correspondent expressed it a few months ago, can no longer expect a single movement or even a great victory to put an end to the war. Individuals may surrender, but there will always remain a certain number of Boer commandoes who will evade defeat. But they will nevertheless continue to harry the British forces until worn out or exterminated.

conclude peace. In my book on "The War of the Future" I pointed out the reason why this must be, and no serious refutation has yet been attempted. On the contrary, military men in some quarters have begun to declare the same thing. Thus, in the fifth edition of his remarkable book, "The Nation in Arms," General von der Goltz adopts this view, saying :—"We may predict that wars can only terminate by the complete destruction of one, or the exhaustion of both combatants." In 1897, another high authority, the Austrian General von Kotié, expressed the same opinion, saying :—"Is it possible to keep for a long time such great numbers of men under arms without plunging the civil population into misery?"

If we witness nothing of this kind in England, it is, of course, that the conditions are exceptional. It must be said that no country with conscription could carry on such a struggle. England sends Volunteers; very different would be the situation of a country with conscription. The despatch of troops fresh to Africa does not influence appreciably England's economic state. Production and circulation follow their paths. But in a conscript country, on the contrary, a great war, which should last as long as many writers like Moltke, Leer, Blume, and von der Goltz have predicted, would probably produce revolution; and it may, indeed, be asked whether England would have not met with other, but still greater, difficulties if she had possessed a Conscript Army.

I cannot pretend to dictate to you concerning the details of the South African War, which you know much better than I. But what do they prove when taken together? That the progress in the art of war which has taken place in the last ten years is greater than that which had taken place since the invention of powder, and that these improvements have tended to stultify themselves by producing a deadlock in the realisation of the objects of war. The circular convoking the Hague Conference contains an affirmation of this fact, which it would require great levity to contest :—"Millions are spent on the construction of engines of war of an unheard-of power. These engines which pass to-day for the last word of science will be put aside to-morrow as the consequence of some new discovery in this domain."

The further object of my lecture will be to attempt to prove to you that even to-day, putting aside probable improvements in the future, no results can be obtained in a great European War, and in consequence war has become impossible to wage decisively, and can only lead to social cataclysms and provoke revolution. And that England, while creating the most formidable army for interference in a Continental war, would obtain absolutely opposite results. England has no need for a formidable army that would be nothing but a criminal toy, which would waste the savings of the classes who are the most necessitous of the country, and would awaken a different spirit in the nation. The spirit of independence and initiative which has made the greatness of England would be weakened and diminished. England would only be in the position of playing the game of Germany which, as Lord Rosebery has justly said, after her military victories of 1870 prepares for a more

important victory in the commercial domain. In such a war the army put into the field by England would not weigh an ounce in the scale. The *folie des nombres*, as Count Caprivi expressed it, which has made armies numbering millions of men which can never be employed. But as economic resources must decide a war, England would weaken herself by creating a great army, and by that very fact would diminish her importance. For a defensive war England has no need of an army in the old sense of the word and for Colonial purposes her army must be specialised.

So far I have only attempted to show how far the lessons of the South African struggle might be taken as applying to the case of a great war in Europe, the chief lesson being that the improvements in arms, and the corresponding changes which have taken place in tactics, have given a great advantage to the defence. I deal now with the much more important question of the consequence of this fact, my conclusion being that, although any of the great Powers on the defensive should mobilise only a part of the forces which compulsory service puts at its disposal, the attacker could not attain his object. But this question, primarily a military one, involves also the most important economic problems, because if it can be shown that war will be long and indecisive, we must consider its effect upon civil life. The chief phenomena of this condition of things would be a rise in the price of all the necessities of life, a consequent panic among the population, the loss of private incomes and public credit. But as this internal disorganisation is incompatible with military endurance, we are driven to the conclusion that before military successes can be gained which will be sufficient to impose peace on the conquered, the bankruptcy of internal resources must put a stop to the war.

I have already dealt with this question at length in Germany, one of the countries most directly interested. In the *Deutsche Revue* I published an article entitled "The Lesson of the Transvaal War for Germany," pointing out these facts. In one of the following numbers an officer of the General Staff published an article in which he called my arguments "Trugschlüsse" (false conclusions), in view of the fact that the lesson of the Transvaal War cannot be applied to Germany.<sup>1</sup> I have already given

<sup>1</sup> It is worth quoting a characteristic passage from this reply :—

"No one will accept as a model the ill-advised attack formations of the British, and the reverses they suffered therein were actually foretold in advance by military experts who knew their tactics.

"A further deduction made by M. de Bloch is, that the guerilla warfare now in progress in South Africa would, if adapted to the circumstances of an European country, make a decisive result impossible. But the action of the French *franco-tireurs* in 1870 did not make a decisive result impossible. And improved weapons cannot make much difference in this matter, as I hold it to be impossible for the whole of a highly civilised nation like the French to carry on a guerilla war. There is a difference between the simple conditions of life in the Transvaal, and the highly developed social organisation of Europe, where we cannot find a nation able to endure patiently the burdens, privations, and sacrifices of such a war. The longing for peace becomes at last so strong that it outweighs everything else. . . . For the unprejudiced observer

what seem to me good reasons why the lessons of South Africa do apply, and in due time I shall point this out to my German critic; but seeing to what a degree the Continental soldiers try to disfigure the facts of the South African War, and to forge arguments which have absolutely no other use than to misrepresent the facts, as, for instance, by citing German efficiency in China, and also in view of the fact that in England articles have been published by eminent soldiers and politicians declaring that the South African War teaches nothing, I hope, in view of the gravity of the subject, you will pardon me for casting a general glance at the real way in which the lessons of the South African War will apply in the case of an European struggle.

#### THE CAVALRY QUESTION.

The question of the use of cavalry for irruptions and reconnaissances rises first. Three-quarters of European cavalry forces will be on the frontiers for the purpose of making incursions into the enemy's country. Two hours after the declaration of war the cavalry will have taken the field, and, on the other hand, measures will be taken in order to prevent destruction by cavalry. But whatever be the result, there is no doubt that the hatred unchained by such incursions will have an effect upon operations, as one of the best means for the better preparing of the ground for a national war. At present we see many military authorities declaring that the sacrifices made in order to increase the number of cavalry are not well founded.<sup>1</sup> The South African War confirms entirely this opinion. For reconnaissances they failed, and for charges they were found useless. Reconnaissances such as those projected by von Moltke in his plan of campaign seem absurd nowadays, when the effect of rifle fire is so great that Lord Roberts, as he lately told us, had to increase the distance between the files in infantry attack from 6 paces to 10 and then to 20.

In regard to reconnaissance, the Transvaal War shows that the thorough reconnaissance of the enemy's position can only be the business

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only one deduction can be made from the Transvaal War, the *complete unfitness of the English military system*, witnessed years ago by military authorities, who predicted what would happen if it were seriously tested. But when M. de Bloch, completely mistaking the difference between the English and German Armies utters the opinion that 'There will be a decline of stamping about the drill ground, which is usual in the German Army,' we may remind him that life in the German Army gives something else to the men, namely, *training*, which is not to be had in the English Army. Drill and training have made our Fatherland great, and have just brilliantly stood the test in China. And, if need be, in the future they will gloriously endure still more serious tests."

<sup>1</sup> The German official *Jahresbericht*, for 1900, tells us that "The idea is gaining ground with regard to the proposed incursions of great masses of cavalry into the enemy's country during the first stage of mobilisation, that the gain would not be equal to the price paid. With a well-organised and active frontier guard, flying columns could succeed in drawing hostile cavalry into positions where it would be enveloped and broken up, by depriving it of rest and food, so that the cavalry thus sacrificed would be lost for subsequent operations."

of scouts working on foot, who will by stealthy approach obtain the information which is indispensable for the arrangement of an attack that is to have any certainty of success. For reconnaissance, cavalry has undoubtedly lost its old rôle. But attacks of cavalry in mass belong no less to the past if we may judge by South African experience. Before that war broke out calculations had been made that if a cavalry attack by 2,600 horsemen was made against a battalion of infantry from a distance of 800 metres, they would be destroyed by the time they got to within 100 metres. In South Africa, the British cavalry were never able to make such attacks; and since troops on the defensive in a future war will be, as the Boers were, always entrenched, we must eliminate all cavalry charges, as far as the scheme of attack is concerned.

Against artillery, cavalry attacks seem equally impossible. To be effective, they must be in the ancient formation, and in such formations shell fire, shrapnel, and machine guns must cause such losses that the remnant will be forced to retire, if any remain. Meetings of cavalry with cavalry will also probably take place no more. As to the use of cavalry by the defenders, it may be asked why, when having put his troops under good cover the defender is certain of victory, will he expose his cavalry in counter-attack?

It seems also that cavalry has lost its rôle in the pursuit of a flying enemy. In South Africa battles were practically never decisive in the ancient sense of the word, and the British cavalry, which is certainly among the best, was never able to carry out movements which would oblige the Boers to abandon their guns and surrender *en masse*. It cannot be doubted that the same phenomenon will be repeated in the future, since it arises from a permanent feature of modern battles, the great distances between the combatants. Cavalry, indeed, rendered great services in South Africa in the carrying out of rapid movements in turning the enemy's position, but the actual fighting was almost always the work of men on foot.

And since neither reconnaissances nor cavalry attacks are feasible, and the principal use of cavalry is the making of quick marches, the long service and present methods of drill exacted from cavalry are useless, if only measures are taken to enlist for cavalry regiments men who are accustomed to horsemanship.

From all this the conclusion must be drawn that neither the training nor education of the German or any other Army can change these facts as to the new condition of cavalry in warfare.

#### ARTILLERY.

In the use of artillery the Transvaal War furnishes the most important lessons. Before that war it was axiomatically admitted that without the concurrence of artillery, good infantry even very inferior in number could not be dislodged from a strong entrenched position. But South Africa in this respect has taught a lesson. It tells us first that it would be absurd not to assume that infantry on the defensive will always *entrench*, from which

we must conclude that the conduct of the battle depends largely upon the artillery. But the action of artillery in South Africa has been, in general, absolutely contemptible against an entrenched enemy. It never caused heavy losses, obliged the enemy to disclose his position, or shook his *moral*. Yet in these battles the attackers had from four to twenty times as much artillery as the defenders, a superiority which no European Army would possess.

All through the South African War the only example of heavy loss from artillery was at Spion Kop. There, indeed, the British suffered terribly from the fire of the Boer shrapnel. But that battle is itself the best confirmation of the lesson I have drawn as to the valuelessness of artillery against entrenchments. For at Spion Kop the British did not entrench, and were crowded together on a small hill-top without any protection. Therefore they lost enormously. But in every other battle artillery was almost without effect, being used against good entrenchments.

The old theory that a great superiority in artillery is sufficient to silence the fire of entrenched men, and prepare the way for infantry attack seems to be an illusion. There is no exaggeration in saying that British batteries were often engaged against separate Boer guns without succeeding, after a cannonade lasting hours, in silencing one of them permanently, or even appreciably improving the conditions of the infantry attack. The tactics adopted by the Boers of shifting the position of their guns, and the slight effect of explosive shells, seem to explain the powerlessness of artillery in engagements.<sup>1</sup>

The CHAIRMAN:—It is our usual practice to carry on a discussion after the lecture, but as we have not completed what M. Jean de Bloch is going to tell us, as it is rather late in the afternoon, and as, further, those of you who have followed the paper will have noticed that some of the most valuable matter is in the notes, which it has not been possible to read in connection with the text, we propose, unless anybody is ready at this moment to say something that may be of value, to postpone the further part of the lecture and the discussion till next Monday.

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<sup>1</sup> As for the use of shrapnel, the British had excellent conditions at Paardeberg. They had 100 guns in commanding positions, and were unopposed by the enemy's artillery; the ranges were exactly known, and the fire directed from a balloon. Yet the entrenched Boers lost no more than 179. The accuracy of the fire is certain, for shrapnel cases were found scattered freely within from five to ten paces of the Boer works. Shell fire was equally ineffective, as shown by the losses, and the ease with which the Boers held to their entrenchments.



## INDIA: ITS FIGHTING RACES AND ITS ARMY.

### PART I. OF A LECTURE.<sup>1</sup>

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Delivered at Gibraltar, 11th and 18th February, 1901,  
Before His Excellency General Sir GEORGE WHITE, V.C., G.C.B., etc.,  
and Officers and N.C.O.'s of the Garrison.

MY lecture, which is more or less a continuation of Major Crauford's (D.A.A.G. for Instruction) interesting paper on the "Land Forces of the Empire," has for its title, "India: Its Fighting Races and its Army."

I am aware that, besides His Excellency, who is naturally an authority on India, there are some here this evening who have served in the shiny East, and probably know as much, if not more, about the country than I do. To them my lecture may appear flat, stale, and unprofitable; but I must ask them to bear in mind that I have temporarily assumed the mantle of the D.A.A.G. for Instruction solely for the edification (let us hope) of those in whose nostrils has never yet come the smell of a "Sadr Bazaar."

Before going into the subject of modern organisations in India, in order that you may more fully by comparison and admiration grasp the extraordinary modern miracle of the British Empire in the East, which forms one of the brightest jewels in His Majesty's Crown, I wish you to consider for a few minutes the past history of the East and the West: of the East, as exemplified by the antecedents of those millions over whom we rule in India: of the West, as exemplified by our ancestors in the British Isles at the same period.

The history of India before the Aryan invasion (2,000 B.C.) is mythical and vague; we know, however, that the Aryans were not the first invaders of Hindustan, for their opposers were not in the first place aboriginal tribes, but a yellow-skinned serpent-worshipping race who had previously obtained Northern India from apparently an aboriginal tribe, dark-skinned

<sup>1</sup> The lecture, which was divided into two parts, was delivered extempore, not read; and some of the paragraphs as written were omitted and others shortened.

A map of India and seven 5 by 4 feet sepia drawings of types of fighting races were used at the lecture.

and short of stature, supposed to be the ancestors of the Gonds, Bhils, and Santals of Central India.

We need not, however, go back as far as these tribes for comparisons, but let us take India, say, merely 3,600 years ago, *i.e.*, about 1,700 years before our first Christmas Day. We know from investigations by scientists and explorers, and from written documents in Sanscrit, Babylonian, Chaldaic, and Egyptian figures that 3,600 years ago the people of India lived in a state of civilisation with kings and governors over them; that village councils, palaces, temples, tanks, roads, oil factories, potters' wheels, and looms existed; we know that gold, silver, and precious stones adorned temples and palaces, that kings and "the quality" were clothed in "purple and fine linen," that one of the purest religions that God ever permitted at that time to obtain on earth was taught to the people, namely, the Hindu religion of Brahma, a religion we now see degraded through the deceit, immorality, and cupidity of its priests (the Brahmins) into one of the lowest forms of idolatry existent.

In those far-distant days, however, when the heads of families taught the principles of the three Vedas (Hymns)—the fourth Veda is of a later date—they taught the existence of one invisible God, the incarnation of truth and happiness; they taught that the Godhead is divided into three persons (Brahma, Vishnu, Siva), and this as an article of Faith admitted of no variation. Just think of it for a moment. At a period prior to the voyage of the Argonauts, or the siege of Troy, when Venus and Mercury were worshipped by Greeks and Trojans, when the Zoroastrians paid their vows to the rising and setting sun, when Saul was King of Israel, and the coming of Our Lord but dimly foreshadowed in the words of Samuel and Job, the One Supreme God was worshipped with rites and ceremonies at Benares, Somnâth, Kanuj, Nasik, and Muthra, in the Deccan and in Northern India, in fact everywhere where the Hindu Trinity in its present degraded form now holds sway.

Later on we come across the institution of castes and the pure religion of Brahma becomes more and more of a priest-ridden organisation, and in the Institutes of Menu about 1000 B.C. (according to Sir William Jones about 1300 B.C.) we find laws and regulations drawn up which show very much what the priestly caste of Brahmins wished Indian society to become, and which, under their power, it eventually became 500 years later (500 B.C.) A parallel may well be drawn between that period of the Hindu religion and the end of the fifteenth century of Christendom. In the former Gautama Buddha—sometimes known as Sakya Muni—fought his battles for purity of faith and gave birth to Buddhism, the religion, though in a form far degraded from that preached by the "Light of Asia," of two-thirds of the inhabitants of the world to-day. While in the latter (1480—1520 A.D.) men like Erasmus, Luther, and others of the old Catholic Faith worked for practically the same cause.

The Institutes of Menu, although in parts bigoted and narrow-minded, show indisputably that civilisation had for many hundreds of years previous obtained among the people of India. Some of the instructions are certainly quaint. Those regarding matrimony, however,

seem on the whole wise and judicious :—"Let a man," say the Institutes of Menu, "choose for his wife a girl whose form has no defect, who has an agreeable name, who walks gracefully like a Phenicopteros or young elephant, whose hair and teeth are equally beautiful, and whose body has excellent softness." The walk of a young elephant perhaps does not appeal so much to some of you nowadays, but as to the rest I think it shows that human nature and the tastes of young men generally have not undergone any very drastic changes during the last 3,000 years.

Now take another of these rules, a very different one, which shows a proneness to cruelty and the influence of the Brahmins :—"If a low caste speak evil of a Brahman, his mouth is to be burned ; if *to* a Brahman, his tongue to be cut out ; if he assaults a Brahman, he is to be put to death." Take yet one more of these famous precepts, also of date 1000 B.C., namely Chapter II. on Education ; herein it lays down that "the duty of man even in the moment of destruction consists in not only forgiving, but even in a desire to benefit his destroyer." How strangely in keeping with the faith of the early Christian martyrs 1,300 years later!

Such then was the state of the antecedents of the millions in India, who in the year of Our Lord 1901 acknowledge Edward VII. as their Emperor and Ruler.

And where, and what, were we, the heirs of the grandest Empire the world has ever known, doing at that far-distant time? We who now boast of our civilisation and our laws, we who now rule over these 300 millions in India. Had we at that time a pure and simple religion, had we palaces, temples, and a code of laws, factories and village councils? No, our forebears at that time roamed about the swamps and forests of Britain, their clothes consisting chiefly of paint, with now and then a skin covering. They disputed with wild beasts for their daily bread, they lived in caves and caverns, while pitiless Druids quartered human sacrifices in the sacred groves and offered up the bodies of innocent men and women, aye, and children too, on the altars of Avebury and Stonehenge. In any discussion on India, its people and its Army, it behoves us to remember with pride, wonder, and gratitude not only the great birthright which has fallen by the will of God and the prowess of our ancestors to our care and keeping, but also the marvellous history of those millions over whom we hold sway, a people not lightly to be classed in a general way as "niggers" as some are prone to do ; a people not only akin to ourselves in their Aryan stock, but one who held an honoured place on God's earth at a time when we, the now dominant race, were uncouth savages and barbarians!

So much and no more will I say about the very ancient history of the rulers and the ruled in our vast Empire in the East, and I only allude to it by way of preface, in order that you may more thoroughly appreciate and grasp the magnitude and responsibilities of our present heritage.

Indian history from the times of Asoka (260 B.C.) to that of Queen Elizabeth, when we first obtained a footing on Indian soil, is a history of invasions and conquests by foreign Powers. Alexander the Great left his mark on the country in 327 B.C., and we still find in the people and in

works of art, above and below ground, traces of his inroads into the Punjâb (the land of "Five Rivers") and Kashmir. Your Excellency will doubtless remember the beautiful heads of Pallas Athene that were not long ago dug up at Nowshera and Mardan, as well as Greek coins. Then came the Scythian hordes for a period of 600 years, who in their turn gave way to Arabs (about 664 A.D.), and after them came the first expedition of the historical Mahmond of Ghazni, who, you will remember, in one of his raids carried off the sandal-wood gates of the Temple of Samnâth, which gates were brought back to India from Ghazni by the British troops in 1842. The invasion of the Moguls followed about 1200 A.D., the outcome of which was the Great Mogul Empire, lasting for a half a century or more; which in its turn gave way to the Mahrattas, a Hindu power, which later under the Peishwas aided by Scindia, Holkar, and the Gaikwa, rapidly extended their territory and influence. The Sikh power had its birth in the Punjâb about 1500.

It was the Mahratta Empire that suffered defeat at the hands of Ahmed Shah, the Afghan, at Panipat in 1761, and eventually opened the way for European influence, which had, however, made a start under the Mogul Emperor Jehangir in 1615. First in the field came Portugal, Spain followed, then Holland, then France, and finally Great Britain.

We are, our Continental friends tell us, a nation of shopkeepers, it is fitting therefore that the seeds of our great Empire in the East should have been sown in 1600 by 125 shopkeepers of London town, who, under the title of "The Company of Merchants of London Trading in the East," obtained a charter from Queen Elizabeth, and eventually, in 1751 (during the period of Mahratta power) obtained that ascendancy over the then rising French power in India, which we may call the beginning of British India.

In 1744 there were but two active European forces at work in the East: the French under that heroic and wonderful man Dupleix had obtained enormous influence not only over the Moguls but also over the whole of the Deccan and Carnatic, and it seemed at that time as if France, and not Great Britain, would become the dominant power in India. But rising into note on the British side was one Robert Clive, who had gone out to India as a writer in the Trading Company, but who, when events gave him the opportunity he desired, turned his quill into a sword, and eventually became, as you know, not only the victorious general of the British forces in India, but also first Governor of Bengal and a Peer. The shopkeepers of Great Britain supported their Company in the East with every means in their power; the shopkeepers and the Government of France left Dupleix to support himself; when successful he was lauded to the skies as the greatest man France had ever known, but when through lack of support he suffered defeat at the hands of Clive at Arcot, Conjeveram, and Trichinopoly, both he and Labourdonais were deserted by their countrymen and both eventually ended their days in France in poverty and suffering.

After his successes in Madras Clive went home to England, and returned to India only to find that affairs in the Bengal Presidency were

in a critical state. The Nawab of Bengal, the notorious Suraj-ud-Doulat, had captured Fort William at Calcutta, then held by 120 soldiers and seamen gunners, a few half-castes and native sepoys in the Company's employ, and had, with unspeakable cruelty, put to death the majority of the survivors in the Black Hole of Calcutta.

Clive proceeded to Calcutta, and the succeeding year 1757 (just 100 years before the Mutiny) witnessed his victory over the Nawab at Palasi. A slight mention of the battle of Palasi is, I think, necessary, as it is really that battle which gave birth to the military power of Great Britain in India. The forces of the Nawab numbered 50,000 infantry, 20,000 cavalry, and fifty guns worked by French gunners. Clive crossed the river to attack this force in the groves of Palasi with a force of only 1,000 Europeans, 2,000 sepoys, eight 6-pounders, and two howitzers. The battle lasted from 22nd to 23rd June, and resulted—I must say chiefly owing to the treachery and cowardice of Mir Jafir and other chiefs on the Nawab's side—in the utter defeat and demoralisation of the enemy, with a loss of only seventy-two men on our side.

Palasi, however decisive, cannot be classed among the great battles of history, but its moral effect was enormous. It is, we may say, Palasi which has forced Great Britain to become one of the main factors in the burning Eastern Question both in Europe and China; it is Palasi which has necessitated the supremacy of the Union Jack in Egypt and South Africa; it is Palasi that has made London the greatest commercial centre of the world, and His Majesty's domains the greatest Empire of history.

Although in all these battles and many that followed it was nominally the H. E. I. Company *versus* the Native Rulers of India, we must not forget that at the back of chiefs like the Nawab of Bengal, Tippoo Sahib of Mysore, and the Peishwa of the Mahratta Confederacy, was the power of France still striving for supremacy in the East. French officers and French soldiers marched under the banners of the native chiefs, hoping to eventually drive the British into the sea, and create an opening for a French empire in the East. In fact, at Cuddalore (1781) our opponents were chiefly French. It was there that among the French prisoners taken by Colonel Wagenheim (a Hanoverian in the British service) was a young French sergeant, who, after having fought with marked courage, was badly wounded. Colonel Wagenheim was much struck with his bravery and bearing, and personally directed his wounds to be seen to. Many years after, when Wagenheim was a retired general, the victorious French under Marshal Bernadotte entered Hanover, and the general, of course, with others attended the levée of the victorious Bernadotte. On his being presented, the marshal asked him if he remembered a wounded French sergeant to whom he had showed kindness at Cuddalore. The general answered in the affirmative. "That young sergeant," replied the future King of Sweden, "was the person who has now the honour to address you, and who rejoices in having this public opportunity of acknowledging his debt of gratitude to General Wagenheim."

I have neither time, nor would it be quite in keeping with this lecture, to go through all the campaigns in India and elsewhere in which the Army in India was engaged for a century, from the time of Clive to that of Clyde, against Mahrattas, Sikhs, Gurkhas, Afghans, Burmese, Persians, and others, nor to tell you anything of the life and work of men like Wellesley, Lake, Combermere, Sale, Napier, Sir Harry Smith, Sir Hugh Rose, Lord Clyde, and many others.

Yet, I think I must tell you something about Sir Harry Smith, the Peninsular veteran, who defeated the Sikhs at Aliwal, near Ludhiana, in January, 1846, as I think it will interest you. You have all heard of Ladysmith—well, the two were at one time very intimately connected; it was in this wise: Captain Harry Smith engaged in both love and war in the Peninsular Campaign, and won, as well as honour and glory, the love of a beautiful Spanish maiden of "Old Madrid," whom he had rescued from imminent danger and who eventually became Mrs. Harry Smith. He then went to the Cape and fought in the Kafir Wars of 1834-35, before he went to India, returning to South Africa, after his victory over the Sikhs at Aliwal, as Governor of the Cape of Good Hope. It was he who in 1848 annexed the Orange River Sovereignty to the Crown, it was he who in the same year defeated the Boers at Boomplatz. It is in honour of his victory in India that the name of Aliwal was given to that district and town north of Cape Colony. Harrismith in the Orange River Colony was named after him. Just north of the Tugela lies a township where the Union Jack still proudly flies; this township marks the spot where Sir Harry Smith held his conference with Pretorius and the discontented Boers, and is named after the general's wife, Ladysmith.

But to return to the subject of Indian campaigns; if you want interesting literature, let me recommend the history of the British Empire in India to your notice. You will find it more interesting, more exciting, and more profitable than the *Pink 'un*, or even the local jottings in the *Gibrellar Chronicle*.

Now, before proceeding any further, I am sure you will be interested to know something of the germ of the splendid Army that now garrisons India from the Khyber to Cape Cormorin, as it existed in the early days of the East India Company. In 1643 the European forces in India consisted of an establishment restricted by Native Princes to a guard of "an ensign and 30 men." In 1681 the force appears to have been only "a corporal of fidelity and 20 men." In 1693 natives were first enlisted, and I wish you particularly to remember when we come to the second part of my lecture, that the British Empire in India was begun and Clive's victories at Arcot and Palasi won not only by British soldiers, but also by Native troops composed of Madrassis, Bengalies, and some Mahrattas and Rajputs from the Native States. In 1770 the Armies of the three Presidencies had in all increased to 7,000 Europeans and 30,000 Natives. In 1784 the white troops numbered 18,000; in 1808 there were 154,500 Native troops and 24,500 Europeans, made up of King's regiments and the East India Company's troops (like the old 79th, or "Old Toughs," which still bear Wanderwash and Palasi on their colours; they afterwards became the



103rd Bombay Fusiliers, and are now the 2nd Bn. Royal Dublin Fusiliers). In 1856, the year preceding the Indian Mutiny, the Army consisted of 38,000 Europeans of all arms with 276 field guns, and 348,000 Native troops with 248 field guns, that is to say, the Native troops were nearly ten times as strong as the Europeans.

India is a country of superstitions and prophecies, many of which have, it must be confessed, been fulfilled in a curiously precise manner, and others there are that have been made to fit in with after facts in a quaint and clever way. Take, for instance, the fall of Bhurtpore in 1825. There was a native tradition that the place would only fall when an Alligator ("Khambir" as it is called in Hindi) drank up the waters of the city ditch. When therefore Lord Combermere (Khambir Sahib) invested the place, and by cutting the banks of the Moti Jhil (tank) drained the ditch and captured the fort, the old prediction was awfully fulfilled in the eyes of the Hindus. Then again it was a common saying among fakirs and yoghis that 100 years after the battle of Palasi the British Raj would come to an end, and this prophecy, as well as the matter of greased cartridges, was no doubt a factor in setting fire, in 1857, to the faggots of revolt that had long been collecting under our eyes. One gets an idea of how blind those eyes were when reading Mr. Irving's book on India in '54, where he points out the utter impossibility of any formidable mutiny in our Native Army! As you know, it was not the British Raj that came to an end in 1857, but merely the H.E.I. Company, which, after the Mutiny, was abolished, and the country taken over by the Crown.

It is from this period that we must now consider the present organisation of the Army in India.

In 1858 by command of our late beloved Queen a commission was appointed to consider the terms under which the H.E.I. Company should be transferred to the Crown, and to discuss the subsidiary questions as to the Army in the East. As regards the latter, the recommendations of the committee were as follows: That a European force of much greater strength than existed previously to the outbreak of 1857 must be maintained for the future defence of India (this force was laid down at about 80,000 men), that the proportion of Natives to Europeans should stand at 2 to 1 for Bengal, 3 to 1 for Madras and Bombay; the artillery, with minor exceptions, to be all European.

Practically these recommendations were adopted, and still form the basis on which our Army in India is now organised.

The Indian Army, as a whole, *i.e.*, both British and Native troops, is maintained for the following purposes:—

1. To safeguard India from external attacks.
2. To ensure the impossibility of internal revolution.
3. To share in operations outside India.
4. To keep check over Armies of Feudatory States.
5. To maintain civil authority.

The composition of the Army in India at the present moment including the contingents employed in South Africa (European troops only) and in China, is briefly as follows :—

Punjab Command	-	68,096	roughly	69,000
Bengal	„	-	53,853	„ 54,000
Madras	„	-	43,953	„ 44,000
Bombay	„	-	46,726	„ 46,000
Hyderabad Contingent		8,159	..	8,000
Imperial Service Troops		25,000		25,000
Military Police	-	16,000		16,000
Volunteers -	-	27,000		27,000

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286,787

Out of which, including Volunteers, 100,000 are European (there are 73,000 Regular European troops).

The supreme command is vested in the Commander-in-Chief in India, the second post of importance in the British Army, and one lately held by our present Governor; and under him come the four lieutenant-generals commanding in the Punjab, Bengal, Madras, and Bombay.

(Here followed a rough description on the map of areas of each command.)

Now, after 1857, owing to their disloyalty and mutiny, many Bengal regiments were disbanded. Some, however, which did not mutiny, were retained, as you will see by a reference to the Indian Army List, but they were renumbered, *e.g.*, the present 1st to 13th Bengal Infantry, and some were still raised from Hindus of Bengal in 1858, *e.g.*, the 17th Loyal Purbiyas, as they used to be called; but the Royal Commission, already alluded to, recommended that the Native Army should be composed of different nationalities and castes, and, as a rule, mixed promiscuously throughout each regiment; this with the intention of preventing the possibility of having class regiments like those which mutinied *en masse* in 1857. This system, we may say, generally prevailed in the Native Army (with the exception of Gurkha regiments) from 1857 to 1891, though after the Mutiny the Oudh and Bengal men were not enlisted in anything like the same numbers as before, and a larger number of Sikhs, Gurkhas, and Punjabis were substituted, and we began to enlist men from across the frontier, namely, Pathans and Baluchis.

In 1891 a great and much discussed change in the Hindustani regiments of the Bengal Army was carried out, whereby some 16 regiments of Bengal Infantry and some in the Punjab which had been since the Mutiny class company regiments (*viz.*, 2 companies of Brahmans, Rajputs, Hindustani Mahomedans, and Sikhs, respectively), became class regiments composed entirely of one class, *e.g.*, the 1st Bengal Infantry are now all Brahmans, the 2nd Bengal Infantry all Rajputs, the 5th Bengal Infantry all Hindustani Mahomedans, the 6th Bengal Infantry all Jats, the 14th Bengal Infantry all Sikhs; and now there are in the Bengal and Punjab Armies no less than 35 class regiments.

This change was carried out under Lord Roberts' chiefship (and has been, and is still, the subject of diverse opinions). From a military and fighting point of view the advantages are evident; from a political and disciplinary point of view they are, perhaps, open to question.

The Native cavalry of all four commands are still classed as squadrons in regiments, except 1st Bengal Cavalry (Hindustani Mahomedans) and 14th Bengal Cavalry (Murray's Jats, raised in 1857 by that fine old soldier Sir John Murray).<sup>1</sup>

In addition to the Native troops of all four commands and certain local corps in Central India and Rajputana like the Central India Horse and Deoli Irregular force (formerly under Government of India, but now since 1897 under the C-in-C.), there is what is known as the Hyderabad Contingent, consisting of 4 regiments cavalry, 4 field batteries, and 6 battalions infantry, which were raised originally by the H.E.I.C. as an auxiliary force under treaty of 1853. This force is officered by British officers of Staff Corps in the cavalry and infantry and by R.A. officers in the field batteries, and is organised on the same lines as the Regular Native regiments. Its duties are to support the Nizam throughout his dominions (certain territories having been originally ceded to H.E.I.C. to pay for their upkeep), and in the event of war they may be employed as the Government of India sees fit, so long as 2 battalions of sipahis remain near the capital of Hyderabad.

I have used the term "Staff Corps" once or twice. I think you all understand what it means; but to avoid any misapprehension on the part of some of the N.C.O.'s, I will say briefly don't confuse "Staff Corps" with the "Staff." Roughly speaking, all officers of the Indian Army nowadays belong to the Staff Corps, which is merely a corps of British officers on one list, whence the European officers required for native regiments, staff, and dépôts, and in some cases civil employ, are drawn.

Since 1889 (Lord Dufferin's vice-royalty), there has been another addition to the armed forces in India in the shape of the Imperial Service troops, amounting to about 25,000 cavalry, infantry, and transport, maintained under the supervision of British officers in about 25 different States. The principle of this scheme of Lord Dufferin's was that in lieu of accepting offers of money to the amount of more than 125 lacs made by many of the Native chiefs for purposes of Imperial defence, we should obtain their co-operation better by the re-organisation of a portion of their armies (mostly rather a rabble at that time) and their formation into Imperial Service troops, organised and equipped on a uniform plan, trained and inspected by British officers, but commanded by Native officers, and in peace-time under the complete control of the States to which they belong.

I have no reliable data to go on, but I believe the Imperial Service troops now number about 10,000 cavalry, 12,000 infantry, and 3,000 transport. Detachments of these troops, oftentimes under the command

<sup>1</sup> I have been told that as regards the 1st B.C. this is not now strictly correct, for though generally understood to be a class regiment it is a good deal mixed.

of Native Princes, have already done good service with the Regular Army in Hazara, Gilgit, Hunza, Nagar, Chitral, Tirah, and some are now employed in China.

The advantages of the scheme are obvious; moreover, it gives many charming billets as inspecting officers to about twenty selected officers of the Staff Corps, who have managed in a remarkably short period to convert what were undisciplined and undrilled troops into a really smart and useful force, while at the same time they have a most interesting work to perform, and obtain from Native Princes, during their leisure hours, the finest shooting and pigsticking in India.

Of course, looking at this scheme from a pessimistic political point of view, it appears at first sight, judging by the light of our decisions after the Mutiny, to be a somewhat retrograde movement, placing as it does in the hands of Native Rulers a highly trained force, which in the event of serious internal uprisings in India might be used against the Government. I think, however, one may safely say that putting on one side all questions of loyalty and "nimakhahal," the Native Rulers know so well nowadays the worth of the Government under which they serve as feudal lords, and know also which side their bread is buttered, that the chances of our training a tiger cub that will eventually turn and rend us, are, so long as we govern India by justice and the sword, infinitesimally small as compared with the obvious advantages.

Besides these Imperial Service troops, the Native Rulers still maintain under treaty rights, chiefly for ceremonial purposes, police work, and various odd jobs, what are called "the Regular and Irregular troops of the Native States." I believe there are about 120 Rajas who keep up this manifestation of sovereignty. These troops are in no way under the Commander-in-Chief or the Government of India, and we have no control over them, save that if the Government of India thought fit it could order the disbandment of part or whole of the forces. The so-called Regulars have very much diminished since the formation of the Imperial Service troops, for the latter are now available for ceremonial purposes. The so-called Irregulars are very irregular indeed, more or less a rabble, armed with various kinds of weapons, breechloaders, and blunderbusses, which if they ever went off would probably blow up the Irregulars. They are not properly drilled, their words of command are given in the vernacular, their uniforms (when they have any) are far from uniform, their pay is almost as uncertain and piecemeal as their clothing. They are useful however occasionally as State servants and jacks-of-all-trades, and I have seen both their good and bad points when shooting in Bhurtpore and pig-sticking in Jammu. The Carabineros here in Spain strangely remind me of the Native States Irregulars at times.

Now, in addition to the Regular and Irregular troops of our Native Army, there is another body which must be taken into consideration, namely, the Military Police, a force which owes its existence to the extensive operations necessitated by the pacification of Upper Burmah, and to, I believe, Lord Roberts and our present Governor, Sir George White. Their duties were somewhat analogous to those of the South

African Police Force now being raised. This force must not be confused with the ordinary Police Force of India, which, though semi-military in its training, is a purely civil force under Civil Government. The Military Police Force was raised in 1886, and I believe now numbers some 16,000 men, Punjabis, Gurkhas, Sikhs, Garhwalis, and Hindustanis (there are no Burmese soldiers in our Army as yet). Ten years ago the force numbered 20,000, but in 1891 five of the battalions were converted into Native Infantry regiments of the Madras Army (29th to 33rd Madras Infantry, known also as "Burmah battalions"), while some of the old Madras Infantry battalions were, I believe, on the recommendation of His Excellency Sir George White disbanded.

While the Military Police do service on the Eastern marches of the Empire, we have another Irregular Force now existent on the North-West Frontier, composed of various battalions (or bodies, I should say) of Frontier Militia raised from among the Frontier tribesmen, and the Khyber Rifles, the glorified descendants of the "Catch 'em alive Ohs" that we knew so well in the Afghan War days. These forces, I believe, numbering some 5,000, are under Civil Government, but commanded by Staff Corps officers.

I have now enumerated all but the last item of our Army in India, namely, the Volunteer Force, which came into organised existence in 1860, although, as you are doubtless aware, many rapidly raised regiments of Volunteers, especially mounted ones, did excellent service in the dark days of '57-58. They number at present about 27,000 (which number should, in my humble opinion, be quadrupled; but of this more hereafter), including Light Horse, Mounted Infantry, Artillery, Engineers, Infantry and two Naval Volunteer Brigades for Coast Defence. Natives of India are not permitted to join Volunteer corps, though many have been anxious to do so, notably the Parsis; but Eurasians are (*i.e.*, "half-castes," half European, half Asian, hence the term), but the suitability of the latter to bear arms is, I think, open to question.

A mounted rifle company of Rangoon Rifle Volunteers served in Burmah in 1885, and was present at the taking of Mandelay.<sup>1</sup> Volunteer corps have frequently been employed on military duty in aid of the Civil Power, and, as you probably know, Lumsden's Horse, now in South Africa, is composed chiefly of men from the Behar, Ghazipur, Surma Valley, Gorahkpur, and Calcutta regiments of Light Horse.

The chief point I wish to draw your attention to regarding Indian Volunteers is that we have in that country an example of compulsory Volunteering. The term sounds a bit paradoxical, but it is one you may have heard mentioned lately regarding our Home Army, as many people (myself among them) are of opinion that if the law of ballot for the Militia in the United Kingdom and Ireland is still to remain suspended, the only solution of the problem of adequate home defence lies in some form of compulsory Volunteering, though personally I look on ballot for the Militia as our only real and national panacea.

<sup>1</sup> I have since been told that some of our Indian Volunteers also took part in the Manipur Expedition.

In India the *employés* of the State railways are obliged by the terms of their engagement to join the Volunteers, and such battalions as the East Indian Railway Volunteers (1,900 strong) and the North-Western Railway Volunteers (1,100 strong) are really fine bodies of men, though necessarily owing to the amount of railway traffic in time of either internal rebellion or external war, but a few of them would be available for actual fighting.

The question of compulsory Volunteering in India for all European civilians is one that will, I think, sooner or later have to be settled. The proposal that all Government civil servants should be obliged to join the Volunteers was, by the order of the Viceroy in 1892, considered by a committee of Volunteer officers. This committee, though they considered it undesirable at present that the bearing of arms should be made a condition of Government service, suggested that the Government of India should address all local governments on the extreme importance of enlisting the active interest and co-operation of all heads of departments in the encouragement of Volunteering among their subordinates. This representation was made by the Council, and the result was an increase in the Volunteer force of officers of the Indian Civil Service, but in nothing like the proportion necessary.

When we remember that in India we are surrounded by a vast population of alien peoples, in many cases fanatical at heart, and in most cases ill-educated; that year by year the unofficial civil community of unarmed and undrilled European merchants, engineers, and shopkeepers is daily increasing, it is of the utmost importance that every white man should become a source of strength rather than of weakness (as he now is) to the Government of the country where he makes his livelihood or fortune, for it is of paramount importance that *Pax Britannica* should not be disturbed in India for a single day.

This completes the actual detail of the land forces of the Emperor of India, and my lecture for to-day.

(*To be continued.*)



## THE SOUTH AFRICAN WAR OF 1899-1900.

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Armee und Marine."

*(Continued and concluded from October JOURNAL, page 1247.)*

### PART XI.

#### GUERRILLA WARFARE.—THE WEPENER EPISODE.

It was no empty phrase when, in the days of depression succeeding Cronje's capitulation, Kruger announced: "The *real* war will begin now!"

War on the large scale, the war of large units, did not suit the Boers. Their capabilities in this direction were limited to the selection of favourable positions, which suited their purely defensive tactics, and enabled them to extend their line so as always to occupy a wider front than the attacking force could cover. They never succeeded in collecting their scattered forces for a counter-attack, and were therefore never able to win a decisive victory.

After the death of Joubert, on 27th March, Botha had been raised to the chief command. He was not ambitious to command masses of troops; he let the Boers fight in their own way with small flying columns, which appeared unexpectedly here and there, and were everywhere and nowhere at once. These columns would at one time lie in ambush and suddenly sally out to attack; at another time they would stubbornly hold out in a favourable position and escape at the last moment with the slipperiness of eels.

And it really appeared that in this manner the Boers did, on the average, considerably more damage to the English than before.

But this was only because the Boers, when carrying on war on a large scale, had never understood how to utilise their victories by taking the offensive at the proper moment so as to completely crush their adversaries.

During the next few months the English not only suffered considerable losses in men, but were placed at a serious disadvantage by the enormous waste of horses. The English cavalry were kept so constantly on the alert by the activity of these small parties of Boers that their horses died by hundreds from over-work, and from want of food and water.

It was owing to the miserable condition of the English cavalry horses that the commandoes of Olivier and De Wet were able to carry out their retreat from the Orange River right through the middle of the English lines and past Bloemfontein. They marched through the mountains of Winberg and effected a junction with Botha.

These small successes of Olivier and De Wet had not only given a fresh impulse to the Afrikaner agitation, but had raised the spirits of the Free Staters, who had previously been visibly depressed. They became so enterprising that Roberts was forced to leave Gatacre's division and Brabant's division along the railway to Port Elizabeth and East London, to protect his line of communications. He was only able to move up Clements' division (about 2,000 strong) to Bloemfontein.

Even the troops in Bloemfontein, especially the cavalry, were not left in peace. The Boers made daring raids to within a few miles of the city; they blew up railway bridges, captured the mails, and destroyed the telegraph lines. The ubiquitous De Wet inflicted a disagreeable check on Roberts by cutting off, on the 31st March, a detachment which French had left behind at Thabanchu. He surprised them at Sanna's Post, and partly dispersed them and partly made them prisoners. A serious result of this affair was the capture and destruction of the water-works which provided Bloemfontein with drinking water. The health of the troops suffered in consequence, as in the dry winter season the few wells and springs gave only a scanty supply of water. On strategical grounds the water reservoirs of Sanna's Post were really of higher military importance than the town of Bloemfontein. It was not till the 24th April that the water-works again fell into Roberts' hands.

The Boer offensive movement which was being carried out to the west of Bloemfontein simultaneously with De Wet's operations, was directed against the line of communications across country from Modder River to Bloemfontein. Unfortunately, owing to the want of initiative of the Boer leaders, nothing much came of it. But to the east of Bloemfontein, Olivier and De Wet, after the success at Sanna's Post, continued their offensive operations against the railway line to the south. On the 3rd April, De Wet forced a small English flying column to capitulate at Reddersburg. The unfortunate Gatacre, who must have been able to hear the sound of the guns, did not move till he was ordered to the rescue by a telegram from Roberts. This was his last exploit; on the 9th April he was sent home.

The advance of the Boers in the district south-east of Bloemfontein was more important on agricultural and political grounds than from a strategical point of view. The object of the Boers was first to secure the harvest of this, the richest district in the Free State; secondly, to ensure the adhesion of the wavering inhabitants to the Boer confederation; and, lastly, to impress the Basutos. At the same time the Boers lost no opportunity of annoying the English by threatening, and in places interrupting, the line of communications, and so hindering the further advance of the English to the north. They completely succeeded in carrying out all these objects, with a force of only 8,000 men. Unfor-

tenately the Boers were induced, by senseless racial hatred, to commit themselves to the useless siege of Wepener. The troops in Wepener were mostly Volunteers from Cape Colony and Natal. The Boers considered them "traitors to the Afrikaner cause." And even the clever De Wet considered it more important to crush them than to thoroughly destroy the railway to Bloemfontein. This mistake of the Boers was the more serious, since at this time the English reinforcements (the 8th Division under Rundle) were moving up by this line.

This episode of the unprofitable siege of Wepener gave Roberts a welcome opportunity to collect his scattered forces from the south and west, to clear the railway line, and finally, by an advance from Bloemfontein to the east, to manœuvre the Boers away from Wepener and force them to retreat to the north-east. Like all previous attempts of this nature, an attempt to cut off their retreat resulted in failure.

## PART XII.

ROBERTS AGAIN TAKES THE OFFENSIVE—ADVANCE ALONG THE WHOLE FRONT ACROSS THE VAAL—RELIEF OF MAFEEKING—CONTINUANCE OF THE GUERRILLA WAR.

On the 1st May, after seven weeks spent in Bloemfontein, Roberts continued his advance to the north on a broad front. His centre was approximately on the line of the railway to Kroonstadt. His strength was about four times as great as the force which Botha could muster to oppose him; the English cavalry alone was as strong as the whole Boer force. The English cavalry were able to play a decisive part in this open country. It was here possible to turn the flanks of the Boer positions, however far they might extend. The invariable result was that as soon as the Boers found their rear threatened, they withdrew without waiting to be attacked.

This was what happened at Brandfort on the 2nd and 3rd May, and again at Winburg on the Wet River on the 5th May. At this place Roberts ordered a four days' halt; up to this point the division had advanced, mostly across country, at the rate of from 12 to 15 miles a day.

He sent the cavalry on two marches in advance to the Sand River, at which place he expected to encounter the next Boer position.

As a matter of fact, it was found on the 7th May that the Boers were entrenching themselves behind the Sand River. On the 9th May Roberts again advanced. On the 10th May both flanks of the Boers were turned and they were manœuvred out of this position in the simplest possible way, although it had been made as strong as possible by field fortification.

On the 12th May Roberts entered Kroonstadt. This had been the seat of Government of the Free State since the 12th March; it was now transferred to Heilbron.

At Kroonstadt Roberts first concentrated his troops and arranged his lines of communications, which had lengthened by 136 miles since leaving Bloemfontein; he allowed his troops, exhausted by forced

marches, a few days' rest. His attention was principally directed to the east. Here Buller should have been able to carry the Laing's Nek passes and to bring his division into line with the main army, so as to effect a junction with it in the course of the advance into the Transvaal.

Roberts was also looking forward to a successful termination of the campaign, which Rundle's division (then lately arrived) was carrying on against the commandoes of Orange Boers under De Wet, who had remained behind in the Moroka and Ficksburg mountains. Roberts depended upon Buller's and Rundle's success to shift his base to the Durban-Kroonstadt line, which was 150 miles shorter than the East-London-Kroonstadt line. He intended as he advanced to shift his base again to the still shorter line *via* Durban, Newcastle, and Johannesburg.

On the 9th May Buller had at last commenced his advance to the north. After deducting half a division of infantry, his force consisted of three and a half divisions of infantry and one of cavalry.

Roberts' victorious advance laid the passes over the Biggarsberg open to Buller as far as Helpmakaar. The few Transvaal Boers still remaining there at first gave back when pressed by Buller, but afterwards settled down obstinately in their positions on the crests on either side of the Laing's Nek pass. They blew up the railway bridge at Ingogo and the tunnel at Laing's Nek.

Buller utilised this forced delay to repair the railway, and was content to wait until Roberts' further advance over the Vaal River had cleared his (Buller's) front. On the 9th May—on the same day on which Buller advanced against the northern passes—Methuen again advanced from Boshof on Hoopstadt and Bloemhof. Hunter's half-division had been brought round from Natal by sea and by railway to Kimberley; they now succeeded, after a well-masked outflanking movement, in securing the crossing of the Vaal at Warrenton, which the Boers had held so long. At the same time a flying column under Colonel Mahon advanced through Bechuanaland to the relief of Mafeking. This movement was not discovered by the Boers for some time; but the smart Boer General Delarey succeeded in posting himself across Mahon's front. However, a simultaneous sortie of Baden-Powell's brave garrison decided the doubtful issue of this part of the campaign. The Boers raised the siege, and were content to save their guns.

On 17th May, after a seven months' siege, Mafeking was relieved. The garrison, and especially their energetic commander, had set an even better example of courage and endurance than the garrisons of Kimberley and Ladysmith.

Methuen and Hunter reached the line from Hoopstadt and Bloemhof at about the same time. But they were obliged to rely for their further advance on the line from Cape Town to Mafeking. The more so since Roberts, after carefully reconnoitring the Boer forces opposed to him, found himself obliged to force the passage of the Vaal without assistance from the west.

# BULLER'S ARMY CORPS AFTER THE RELIEF OF LADYSMITH.

<p><i>5th (Warren's) Division.<sup>1</sup></i>  11th Brigade,  Wynne.</p>	<p><i>4th (Lyttelton's) Division.<sup>2</sup></i>  8th Brigade,  Howard.</p>	<p><i>2nd (Cory's) Division.</i>  4th Brigade,  Cooper.</p>
<p>10th Brigade,  Coke.</p>	<p>7th Brigade,  Colonel Kitchenor.</p>	<p>2nd Brigade  Hillyard.</p>
<p>3rd Cavalry Brigade,  Burn-Munroch.</p>	<p>2nd Cavalry Brigade,  Brookelhurst.</p>	<p>Half 10th Division,  Barton.<sup>3</sup></p>

<sup>1</sup> Was called away at the beginning of April to act as Governor of West Griqualand.

<sup>2</sup> Took over White's Division after his departure.

Hunter's Brigade and Hart's Brigade had been handed over to Roberts.

Thanks to the successful start made on the left wing, matters in the centre now progressed favourably. Roberts again advanced on 22nd May, attacked the enemy in position on the Rhenoster, and again succeeded in turning his flank.

Except the Vaal, the rivers had lost their value as obstacles during the dry season, and no longer offered any assistance to the defence.

One disadvantage of this enormous extension of the front was to limit the results of the campaign to bloodless strategical successes. Matters never reached the point of a tactical decision. Moreover, with an active enemy, this method of attack would have constantly exposed the force to partial counter-attacks. But Roberts counted on the disinclination of his adversary to assume the tactical offensive, and the event showed that he was right.

Before attacking the Vaal, the only remaining military obstacle, Roberts carried out an extremely useful reconnaissance. He found that the nature of the country along the railway at Vereeniging was very unfavourable for the action of his centre division, as also the ground at the O'Grady road bridge for the right division; the south bank was everywhere commanded by the north bank. On the other hand, to the west of Vereeniging, the advantage of the ground lay with the attacking force. Either this circumstance escaped the Boers, or else they believed that as they were unable to compass an active defence of the river they would not be able effectively to oppose their adversary further down the Vaal. Roberts had formed a correct estimate of the situation, and accordingly shifted the main force of his army to his left wing. From 25th to 27th May, while occupying the enemy with demonstrations on his centre and right wing, Roberts succeeded in effecting a crossing with his left wing without much trouble. It was sufficient to wheel his strengthened left wing to the right, in order to secure an almost unopposed passage for his centre and right wing.

By 28th May, Roberts was in possession of the line of the Vaal River. But as various small flying columns of Orange Boers under De Wet remained south of the Vaal, he was obliged to weaken his front again. When on 29th May he continued his advance on Johannesburg, his force consisted only of two infantry divisions (the 7th and the 11th) and the bulk of his mounted troops.

The advance on Johannesburg now became a regular race. The object in view, the grand prize of the whole war, was to secure possession of the gold mines of Witwatersrand, if possible, intact. The Transvaal Government had on several occasions<sup>1</sup> announced that it would under no circumstances allow the gold mines to fall into the hands of the English, or that it would at the very least destroy them so thoroughly as to render them useless for a long time to come.

After some sharp fighting by the mounted troops and advance guard on 29th and 30th May the investment of Johannesburg was completed, and on the 31st Roberts made his victorious entry into the Golden City;

<sup>1</sup> Blue Book 261, pp. 85-86.



the great thing was, that the mines had not been destroyed! A few days previously, on 28th May, at Bloemfontein, the Orange Free State had been declared a portion of the British dominions as the Orange River Colony.<sup>1</sup> London was mad with rejoicing—the end of the war seemed at hand! But it was then, and is, now<sup>2</sup> far distant; the reasons which justify us in looking forward to a long continuance of the war have already been detailed in these pages.<sup>3</sup>

In any case, Lord Roberts was not so well pleased with his position in Johannesburg as the Stock Exchange men and politicians in London. Although, thanks to his special<sup>4</sup> precautions, he was able quickly to repair the railway bridges over the Rhenoster and the Vaal, the lively development of guerilla warfare in the new Orange Colony under De Wet left him no rest; no later than 31st May the festive rejoicings were spoilt by the unpleasant news of the capture of a whole battalion of Yeomen.

Kruger had carried off all the available produce of the Witwatersrand mines, and the goldfields of Crocodile River and Olifant's River provided further means of carrying on the war. The seat of Government was immediately transferred to Machadodorp, in the Lydenburg Mountains, on the Delagoa Bay Railway, and it was given out that there was no intention of defending the entrenched camp at Pretoria. The Boer force was no longer strong enough to man the forts, and there was no time to replace in position the heavy guns which had hitherto been used in the field.

Roberts had no means of knowing that the Boers had come to this decision. From his point of view, therefore, he acted quite rightly in hastening the advance on Pretoria. Although his fighting front was again weakened by another brigade, left behind to protect the gold mines and the lengthened line of communications, he continued his advance, on the 2nd June. On the 4th June he arrived before Pretoria, and after a short parley Botha consented to vacate the city. On the 5th June Roberts made his entry into the capital of the Transvaal. The English had advanced so quickly that the Boers had found it impossible to carry off all their prisoners of war. Four-fifths of them, or about 3,600, were left behind. This formed a welcome reinforcement of men, both well-fed and full of fight, for Roberts' army.

This proceeding on the part of the Boers was a piece of sound common sense; and they deserve great credit for resisting the fatal attraction which permanent fortifications exert upon a defeated army, and the more so since it required a high degree of moral courage and resolute determination to abandon their own capital to the enemy without a battle.

By this well-considered sacrifice the Boer leaders had traversed the English plan of operations, which was to crowd the Boers together

<sup>1</sup> Blue Book 261, pp. 136-144.

<sup>2</sup> At the end of August, 1900.

<sup>3</sup> *Jahrbücher*, July, 1900.

<sup>4</sup> He had taken with him materials for building military railway bridges.

in Pretoria by pushing forward the right wing under Buller, and so to force all the Boers still under arms to the test of a decisive battle.

But Buller, to whom this leading part was assigned, could not keep pace with the advance of the main army. He was delayed till the 11th June by the difficulties encountered in forcing his way through the mountains at Laing's Nek. These mountains, which are over 7,000 feet high, were excellently suited to the Boer tactics. No blame attaches to Buller for this; on the contrary, it must be recorded to his credit that on this occasion he refrained from running his head against stone walls, and manœuvred his adversary out of successive strong positions by turning movements, even at the cost of some loss of time.

However, the 3,000 Boers had fully attained their object by delaying Buller's whole army corps, four and a half divisions strong, for four weeks from effecting a junction with Roberts. And even after Buller had successfully manœuvred his way through and entered the province of Wakkerstrom, he felt himself so unsafe between the Transvaalers (who had retreated to the north-west) and the Free Staters in the Elandsberg under De Wet, that he abandoned his immediate intention of joining Roberts. Assigning as an excuse the want of water, he again retired behind the passes to Charlestown for several days' rest—in fact, until the 17th June.

In the meantime, Roberts required more support than ever. De Wet was indefatigable in his raids upon the Kroonstadt-Vereeniging Railway from his hiding-holes in the Elandsberg near Lindley. No less than three divisions—Methuen, Colville, and Rundle—had been detailed to watch him, and he kept them fully employed. This left Roberts only some 20,000 men in the fighting line, and he found himself obliged, with this reduced force, to attack Botha, who had entrenched himself at Eerste Fabriken. This position, only a short day's march from Pretoria, was a standing menace to his security.

After two days of fighting, in which Roberts was bold enough to adopt the well-proved method of extending his front to the utmost and turning both flanks of the enemy, in spite of numerical weakness (20,000 men to a front of 25 miles), the Transvaalers decided to retreat into the Middleburg Mountains.

At last, on the 17th June, Buller again advanced. He did not, however, move to the north towards Middleburg, but kept to the north-west along the Durban-Johannesburg Railway, the latest established line of communications. He had to keep up a running fight with the Boer commandoes previously opposed to him, who had never been thoroughly beaten out of the field. He had to leave brigade after brigade behind, and by the beginning of July, when he reached Johannesburg, he had actually used up the whole of his ten brigades to protect the railway, and did not bring a single man to reinforce Roberts. This was the more serious since Roberts' fighting line was being constantly reduced by losses and by sickness. It was only with the greatest difficulty that Roberts in the course of a three days' fight, from the 25th to the 28th June, had been able to force the Boers a short distance further

back along the Delagoa Bay Railway. Both French's and Hamilton's cavalry divisions had been almost put out of action by the enormous loss of horses, and the cavalry regiments only mustered from 120 to 200 "horses" apiece—these "horses" including all sorts of Colonial, Indian, and Australian animals.

And so we find the whole force of the British Army scattered over the Orange Free State and the Transvaal without any solid nucleus strong enough to fight a decisive battle. It is all they can do to protect themselves, and they look forward anxiously to better times in October, when the more favourable season, and, perhaps, the arrival of fresh reinforcements from England may alter the course of the war.

Roberts at Middleburg has only one infantry division left (Pole-Carew's). Both the semi-dismounted cavalry divisions are stationed around him.

Buller covers the railway from Durban to Johannesburg; Clery, Hunter, and Rundle, opposed to De Wet, have great difficulty in pacifying "Her Majesty's youngest colony." Methuen and Baden-Powell with Carrington, who has arrived from Beira, are having an anxious time in the western districts of the Transvaal. From De Wet's latest movements<sup>1</sup> it looks as if the Boers were about to attempt to collect their scattered forces in this district at Rustenburg.

This being the general situation, it is not to be wondered at that when the home Government timidly enquired of Roberts whether he could not spare a few troops for China, he returned the categorical answer: "Not a single man!"

Nor is it surprising that the British nation is not satisfied with the results of the war, which has now lasted nearly a year, nor with the outlook as to its termination. Up to date the war has cost 50,000 men, and a great deal more than a thousand officers, besides £60,000,000 sterling. But what hits the English politicians the hardest is the fact that owing to England's whole military power being held at bay in the Transvaal, England's political influence is for the moment seriously curtailed.

## NAVAL NOTES.

**HOME.**—The following are the principal appointments which have been made: Captain—A. L. Winsloe, C.M.G., C.V.O., to "St. George," as Commodore 2nd Class in command of Training Squadron. Commanders—T. W. Kemp to "Sphinx"; D. St. A. Wake to "Rinaldo"; J. T. Graham to "Fearless"; C. W. M. Plenderleath to "Mutine"; F. H. Peyton to "Vestal"; F. W. Kennedy to "Cruiser"; J. F. Murray-Aynsley to "Pandora."

The "Ophir" has been paid off and returned to her owners, the Orient Company, and Commodore Winsloe has re-hoisted his broad pennant on board his old ship, the first-class cruiser "St. George," as Commodore in command of Training Squadron. The Reserve Squadron, under the command of Vice-Admiral Sir G. Noel, K.C.M.G., having completed its three weeks' cruise, the ships have dispersed to their respective stations. The second-class cruiser "Brilliant" commissioned on the 1st ult. for service with the Training Squadron. The first-class battle-ship "Formidable" was commissioned at Portsmouth on the 12th ult. for the Mediterranean by the officers and crew of the first-class battle-ship "Resolution," which paid off the previous day, and left on the 29th ult. for her station. The first-class armoured cruiser "Cressy," having completed her repairs, left Portsmouth on the 8th ult. for China. The second-class cruiser "Fox" left Portsmouth on the 16th ult. for the East Indies, where she relieves the third-class cruiser "Marathon." The first-class cruiser "Amphitrite" arrived at Portsmouth on the 21st ult. with the relieved crew of the "Illustrious" from Malta; she will leave shortly with reliefs for China.

**Launch.**—The first-class armoured cruiser "King Alfred" was launched on Monday, the 28th ult., from the yard of Messrs. Vickers, Maxim & Co., at Barrow.

The "King Alfred," with her three sister ships, the "Drake," the "Good Hope," and the "Leviathan," will be the largest cruisers possessed by the British or any other Navy. This will be seen at a glance by the following table, which compares the "King Alfred's" principal dimensions and weight with monster cruisers belonging to other first-class Powers:—

Ship.	Length between perpendiculars.	Beam.	Draught.	Displace- ment.
	Ft. In.	Ft. In.	Ft. In.	Tons.
H.M.S. "King Alfred" ...	500 0	71 0	26 0	14,000
United States "California" ...	502 0	69 6	24 6	13,800
Russian "Gromoboi" ..	473 0	68 6	26 0	12,336
French "Victor Hugo" ...	479 0	69 0	26 11	12,500
German "König Wilhelm" ...	393 0	64 3	25 3	8,868

In respect of coal capacity, H.P., and speed, the "King Alfred" also heads the group of cruisers already tabulated, the comparisons being as follows:—

Ship.	Engine Power.	Speed.	Coal Capacity.
	H.P.	Knots.	Tons.
H.M.S. "King Alfred" ...	30,000	23	2,500
United States "California" ...	23,000	22	2,000
Russian "Gromoboi" ...	14,500	20	2,500
French "Victor Hugo" ...	27,500	22	2,100
German "König Wilhelm" ...	15,000	20½	—

The armament of the "King Alfred" will consist of two 9·2-inch guns, mounted in turrets, one forward and one aft; sixteen 6-inch guns, mounted in casemates; fourteen 12-pounders; three 3-pounders; and nine machine guns. The 9·2-inch guns are 37·1 feet long, and, using cordite, develop a muzzle energy of 18,400 foot-tons; these guns are being provided by the Vickers Company with mountings before leaving the Barrow works, and with these it is expected they will easily maintain a continuous fire of four shots per minute. The gun mountings are of an entirely new type, and are arranged to be worked by hand as well as by hydraulic power. The whole revolving weight of the mounting with its gun is 120 tons, and all this weight can easily be worked by hand. There are eight 6-inch guns on each broadside arranged in a series of two-storey casemates. These are 7-ton guns firing 100-lb. projectiles, and by their special construction are capable of maintaining a rate of fire of eight rounds per minute. Two of the guns on each broadside fire ahead as well as four 12-pounders and the 9·2-inch weapon, and thus the "King Alfred" when chasing an enemy will be able to fire ahead per minute the following weight of projectiles:—

					lbs.	lbs.
From	9·2-inch guns	...	...	4 projectiles of	380	= 1,520
"	6 "	"	...	32 "	100	= 3,200
"	12-pounder guns	...	...	80 "	12½	= 1,000
				116		5,720

Against a following enemy she will discharge the same weight of shot from the guns firing astern. The broadside fire per minute will be:—

					lbs.	lbs.
From	9·2-inch guns	...	...	8 projectiles of	380	= 3,040
"	6 "	"	...	64 "	100	= 6,400
"	12-pounder guns	...	...	140 "	12½	= 1,750
				212		11,190

If all the large guns in the ship were fired simultaneously the total weight per minute would be approximately 16,000 lbs., and the total energy developed over 810,000 foot-tons. Comparing this with the gun power of other large cruisers, a correspondent of the *Morning Post* writes:—The United States ships of the "California" class have four 8-inch guns in the two barbettes, instead of the two 9·2-inch guns in the "King Alfred," but they have only fourteen 6-inch guns instead of the sixteen in the British ship. The most powerful of the United States 8-inch guns fires a projectile of 250 lbs. instead of 380 lbs., the muzzle energy being 12,000 foot-tons, so that on a similar computation the 8-inch guns would fire twelve shots per minute, and the total weight of shot fired in a minute would be 14,200 lbs., or 1,800 lbs. less than in the case of the British ship, which would also have the great advantage conferred by the higher power of the 9·2-inch weapons—each over 40 per cent. more effective than the 8-inch guns of the "California." In the "Victor Hugo," which the French are now constructing, it is proposed to mount four 7·6-inch guns as well as sixteen 6·4-inch quick-firers. The French weapon of 6·4-inch calibre develops a velocity of 2,625 feet per second, whereas the Vickers gun for the British Navy develops 2,800 feet per second, though the same firm have completed guns for the Japanese Navy with a muzzle velocity of the very high rate of 3,000 feet per second. As the energy increases at a greater rate than the velocity it is obvious that the British ship has the advantage not only in the sixteen guns of 6-inch calibre, but in the power of the individual guns of larger calibre when compared with the weapons of the "Victor Hugo." Thus the large guns in the French ship fire a projectile of only half the weight of the 9·2-inch guns in the "King Alfred," and thus it comes that one minute's fire, notwithstanding the greater number of guns, is on a liberal computation only 15,312 lbs., while the total muzzle energy is less—about 730,000 foot-tons, as compared with the 16,000 lbs. and 810,000 foot-tons of the "King Alfred."

The "King Alfred" will be fitted with 43 water-tube boilers of the Belleville type, and her engines will be of the triple-expansion type, with one high-pressure cylinder of 13½

inches diameter, one intermediate 71 inches in diameter, and two low-pressure cylinders, each 81½ inches in diameter, the stroke being 48 inches, and they are expected to develop their power when the engines are using steam at 250 lbs. pressure and running 120 revolutions per minute. The total weight of machinery in the "King Alfred" will be 2,500 tons. With her coal supply of 2,500 tons, the ship will be able to steam at a cruising speed of 14 knots, for 12,500 sea-miles, equal to a voyage from Portsmouth to Melbourne, without having to replenish her bunkers.

In the matter of armour protection there will be a belt of side armour 6 inches thick, commencing about 100 feet from the stern and extending forward to the ram, where it tapers off to 2 inches. The principal armament is protected by 6-inch steel, and there are two protective decks, extending almost the entire length of the ship. Her complement will be 900 officers and men.

*Gun Trials.*—The gun trials of the new first-class battle-ship "Irresistible," which took place at Portsmouth, have been looked forward to with considerable interest in naval circles, as this is the first ship in the Service fitted with the new type of Vickers mounting, by means of which heavy guns can be loaded in all firing positions, whether of training or elevation. The "Irresistible" is a first-class armoured battle-ship of 15,000 tons displacement, with propelling machinery of 15,000 I.H.P., and has recently concluded her steam trials in the North Sea. She was built at Chatham at an estimated cost of about £1,000,000, and her main armament consists of four 12-inch Vickers Mark IX. guns, mounted in pairs forward and aft in armoured redoubts. The revolving platform carrying the guns is protected by an armoured steel hood 8 inches thick, but sloped to such an angle as to give the same protection as would be secured by armour of twice this thickness. Each 12-inch gun weighs slightly over 50 tons, and fires a projectile of 850 lbs. with a cordite charge of 207 lbs., giving a muzzle velocity of 2,516 feet per second. The muzzle energy of the projectile is 37,810 foot-tons.

The guns are mounted independently in pairs on a revolving platform, and can be manipulated by both hand and hydraulic power gear. The chief innovation in this gear is the introduction of a new feature of a comparatively simple nature which enables the gun to be loaded at any angle of elevation, thus obviating the necessity of bringing the gun to a fixed position for loading between the rounds, while, in accordance with the now universal practice in all new ships, the guns can be loaded in all positions of training. The adoption of the method of loading at any angle of elevation therefore completes the improvement which was begun when the fixed horizontal position for loading was abolished, so that now guns can be loaded in any firing position, thus avoiding not only the loss of time involved in bringing the weapon to and from a fixed position of elevation, but—what is of very great importance—the gunner is enabled to keep his sights constantly on the object he is aiming at. Thus the means are furnished both of rapid fire and accurate aim with the most formidable gun in existence.

The redoubts of the "Irresistible," which are circular, are protected by 12 inches of armour. The turn-tables revolve on a live roller ring carried on a ring bulkhead, supported independently of the redoubt structure, so that considerable distortion of the latter will not affect the working of the guns. A working chamber is attached to the underside of the turn-table, and revolves with it. From this chamber a trunk descends to the shell rooms and magazines, and serves for the passage of the ammunition from the latter to the chamber, where it is transferred automatically from cages in the trunk to cages working between the base of the chamber and the gun platform. These cages are so arranged that the projectile is always in line with the bore of the gun when it is raised sufficiently to abut against stops carried on the oscillating part of the gun mounting. The projectile can then be rammed home by a chain rammer, which is also carried on the gun mounting. This rammer, being flexible in one direction and rigid in the other, cannot consequently buckle up when being extended. It is operated by the revolving of a sprocket wheel, to which it is geared, the tail end of the chain being supported conveniently in a casing carried below the gun slide. The rammer is provided with a safety apparatus so arranged that it cannot be worked until the cage is in the



loading position, while the latter cannot be lowered until the rammer has been withdrawn. For hand-loading the rammer head can be lowered clear of the bore of the gun, and the projectile, which is carried on a telescope bogie, can, after being pushed forward on it, be rammed home by an ordinary rammer stave.

The trials were carried out under the supervision of Captain A. Barrow and the experimental staff of the "Excellent," and the Admiralty were represented by Rear-Admiral Angus MacLeod, Director of Naval Ordnance, and Rear-Admiral C. C. Drury and Captain R. F. O. Foote, of the Ordnance Committee. The usual number of rounds were fired from the forward turret with practice and service charges, and diagrams of pressure and velocity were taken from the recoil cylinders of both guns. These were in accordance with the design, the recoil being practically 33 inches with the full service charges. In the after turret an elaborate programme of speed firing was carried out to test fully, not only the new method of loading the guns at all firing angles, but the accuracy of fire obtainable under the new conditions. For this purpose a small target was launched overboard, and with the ship steaming at a distance of about 1,200 yards, fire was opened with both guns, each of which fired five rounds alternately. The result was satisfactory, as every shot would have hit the side of a ship in the vital parts, while the ten rounds were fired off in 4 minutes 46 seconds. The crew had only had three days' practice with a type of machinery that was new to them, and it may therefore be reasonably assumed that even better results will be obtained with a practised crew. After the trials the mountings were carefully examined and were found to be in good order, no hitches of any kind having occurred. Messrs. Vickers, Sons & Maxim have on order from the Admiralty similar sets of gun mountings for five other battle-ships, including the "Vengeance," whose trials have since successfully taken place.

All the other guns in the "Irresistible" were tested with satisfactory results, and the vessel was ordered to return to Chatham, where she will be completed for sea.

*The "Aboukir."*—The gun trials of the armoured cruiser "Aboukir," sister ship to the "Cressy," have recently been carried out at Portsmouth. The "Cressy," it will be remembered, had her gun trials some months ago, and, satisfactory as they proved, it was felt that, by making some alterations to the breech gear and to the loading arrangements, an increase of rapidity of fire might be obtained. The principal alteration lay in providing hydraulic power for hoisting the cordite charges instead of hand power, as with the latter it was hard work to keep up a supply of two rounds a minute. Accordingly the Admiralty asked for hydraulic power capable of raising three rounds a minute, and the contractors supplied power which, on trial, hoisted forty-two rounds in a trifle less than ten minutes. The "Cressy" was detained at Portsmouth on account of an accident to her steering gear, and the Admiralty seized on the opportunity to have her fitted with the new power gear before she left. So promptly was the matter put through by the contractors, who had to design and make the new hydraulic engines, and by the Portsmouth Dockyard authorities, who had to fit the apparatus on board, that the work was completed well within the time required, so that the "Cressy" left England as perfect in this respect as her sister ship later proved herself to be at her gunnery trials. The main result of the "Aboukir's" trials can be summed up by saying that on board the "Cressy" five rounds were fired from a 9.2-inch gun in 100 seconds, and on board the "Aboukir" the same number of rounds was fired in 85 seconds. Thus the improvement based on the "Cressy" trials augmented the power of the "Aboukir's" 9.2-inch armament in the proportion of 100 to 85—a very substantial gain. Five rounds in 85 seconds from a 9.2-inch gun firing a shot of 380 lbs. with a cordite charge of 52 lbs., and commencing with the gun empty and the breech closed, by a long way beats all records hitherto obtained either in England or abroad; and when it is recollected that five years ago one round a minute from such guns was considered very satisfactory, the progress made will be appreciated. A ship would go into action with her guns loaded, and would thus be able to fire not only five, but six, rounds in 85 seconds, always providing that the aiming was prompt; and this end is not only in view, but has in some ships been attained, thanks to the aiming apparatus invented

by Captain Percy Scott, without which, it is understood, none of our war-ships will in future be commissioned. The trials on board the "Aboukir" with the 6-inch and smaller guns passed off without incident, everything working satisfactorily. The hydraulic machinery, gun mountings, etc., were supplied by Sir W. G. Armstrong, Whitworth & Co., and the guns by Messrs. Vickers, Sons & Maxim.

*Steam Trials.*—The "Syren," the last of a series of thirteen 30-knot torpedo-boat destroyers supplied by Palmer's Shipbuilding Company, has completed her trials. The first boat of the series was the "Star," which had a serious accident on her first trial, but since then the whole of the boats have been run with such remarkable success that the only cause of abandonment of trial has been bad weather. At the full-power trial the "Syren" drew 5 feet  $1\frac{1}{2}$  inches forward and 9 feet  $\frac{3}{4}$  inch aft. She had 245 lbs. of steam in her boilers and the vacuum was 25 inches starboard and port. The revolutions were 382.9 starboard and 380.2 port, and the total I.H.P. was 6,708. The air pressure was 3.6 inches, and the mean speed of the three hours was exactly 30 knots. During the early part of the trial the vessel made six runs over the measured mile in Stokes Bay, when the mean I.H.P. was 6,689 and the speed 29.812. These results correspond with those obtained at the coal-consumption trial, when the mean speed of the three hours was 29.764 knots and the I.H.P. 6,665. Between the two trials the coal was weighed, and the consumption was found to be 2.4 lbs. per I.H.P. per hour. The speed and economical results do not appear to compare favourably with the "Syren's" predecessors, built by the same firm, but it should be explained that the vessel carried 40 tons more load than the "Star," the first of the series, and 30 tons more than the "Myrmidon," the eleventh on the list. An interesting feature of both trials of the "Syren" was the use of the automatic lubricator, the invention of Mr. Reed, who is the patentee of the boiler used in all the destroyers built by Palmer's Shipbuilding Company. The oil, after being pumped in at the end of the shaft, is forced through all the rods and bearings, and, after returning to the reservoir, is sent on its course again. The saving of manual labour is comparatively unimportant, but the certainty that every part of the machinery is regularly and systematically lubricated has been clearly demonstrated, and hence a great saving of wear and tear may be expected.

The new torpedo-boat destroyer "Greyhound," which was built by Messrs. Hawthorn, Leslie & Co., has undergone a successful three hours' official coal consumption trial, with engines working at full power. During six runs in the measured mile an average speed of 30.424 knots was obtained, while the average for the full time was 30.157. The machinery worked smoothly, the steam pressure in the boilers being 243 lbs. per square inch. The revolutions per minute were 392 starboard and 394.4 port. The mean I.H.P. was 3,229 starboard and 3,144 port, making a total of 6,373. The actual consumption of coal has not yet been worked out. The vessel returned to Chatham to be prepared for further trials.

The new torpedo-boat No. 107 has passed her final official full-speed trial off the mouth of the Thames. The mean speed on the measured mile was 25.401, and that for the three hours 25.206, the I.H.P. being 2,899. The notable features of the trial were the smoothness with which the engine worked, the low air pressure in the stokeholds (1.6 inches), and the handiness of the boat in turning. The diameter of the circles at full speed were not more than three lengths under starboard helm, and four lengths under port helm; the boat remaining practically upright. The trial was made with the full sea-going load of 42 tons on board, which is much in excess of the 35 tons carried on the trials of 30-knot torpedo-boat destroyers of twice the displacement. The stiffness and strength of the hull were clearly shown by the remarkable absence of vibration. This is the third of four similar vessels building for the Admiralty by Messrs. John I. Thornycroft & Co., Ltd., of Chiswick.—*The Times* and *Naval and Military Record*.

FRANCE.—The following are the principal promotions and appointments which have been made: Rear-Admiral—E. L. Gadaud to be Commandant at Havre. Capitaines de Vaisseau—E. L. Gadaud to be Rear-Admiral; E. M. Le Léon to

"Masséna"; E. M. Delaunay to "Requin"; C. L. M. Duroch to "Triomphante" and command of Cochon-China Naval Division; L. A. Massenet to "Amiral-Gueydon." Capitaines de Frégate—J. A. Daniel and C. E. Motat to Capitaines de Vaisseau.—*Journal Officiel de la République Française.*

Rear-Admiral Gadaud has been appointed to the command of the naval station at Havre, where he succeeds Rear-Admiral Antoine, who takes up the appointment of Chief of the Staff in the Squadron of the North. Vice-Admiral Ménard struck his flag on board the "Masséna" on the afternoon of 20th October at Brest, his two years' period of command of the Northern Squadron having expired; his successor, Vice-Admiral the Marquis de Courthille, hoisted his flag on the following morning on board the "Formidable" at Brest with the usual honours; his flag-captain will be Capitaine de Frégate Lormier, who, however, will not take up his appointment until he is promoted, which will be very shortly, as he stands first on the roster for promotion to Capitaine de Vaisseau. Vice-Admiral Roustan, who has succeeded Vice-Admiral the Marquis de Courthille as Maritime Prefect at Brest, took over his duties on the 22nd ult. The first-class cruiser "Guichen" arrived at Brest on the 17th ult. from China; it is not yet decided whether she is to be paid off or whether she will rejoin the Northern Squadron, to which she was attached before being sent to China last year. The first-class armoured cruiser "Amiral-Charner," which is under orders to return home from China, will, on her arrival, be paid off into the Second Division of the Reserve at Toulon.

It is again rumoured that next year the Reserve Squadron in the Mediterranean is to undergo a fresh re-organisation, or rather the system which obtained a few years ago will be again reverted to. The squadron will be under the command of a vice-admiral, who after his period of service with the Reserve will succeed to the command of the Active Mediterranean Fleet. As reconstituted the squadron will consist of fourteen or fifteen vessels, the flag-ship being the "Masséna," lately the flag-ship of the Northern Squadron; while Rear-Admiral Besson, the present commander of the Reserve Squadron, will hoist his flag on board the "Magenta"; the other battle-ships being the "Marceau," "Terrible," and "Caïman," the "Amiral Baudin" being detached from the Mediterranean to take the place in the Squadron of the North of the "Masséna." Such a re-organisation will, it is considered, be a very advantageous one, and will increase by one-third the naval strength in the Mediterranean.

The Second Division of the Mediterranean Squadron arrived at Toulon the 3rd ult., on its return from taking part in the welcome to the Tsar at Dunkirk, the passage, on the whole, was a fine one and made at a speed of 11 knots. Rear-Admiral Aubry de la Noë, who is to be superseded by Rear-Admiral Marquis, has only held his command for a year, but he had previously served for a year as Chief of the Staff to Vice-Admiral Sallandrouze de Lamornaix in the Squadron of the North, which service, for the purposes of promotion, counts the same as the command of a division.

*New Ships and Dockyard Notes.*—*Toulon.*—The new first-class armoured cruiser "Montcalm," constructed at the La Seyne Works, near Toulon, has completed her preliminary trials satisfactorily. The trials were carried out at 6,000, 9,500, 14,000, and 18,200-I.H.P., respectively. The engines are designed to develop 19,600-I.H.P., which should give a speed of 21 knots under forced draught; at the 18,200-I.H.P. trial a speed of 20.8 was recorded over the measured mile off the Hyères Islands. With regard to this trial it should be noticed that the ship's bottom was somewhat foul, but she will be docked before the official trials are carried out. The engines worked well and there was a marked absence of vibration of the hull, while she also answered her helm with remarkable ease.

The work of re-constructing the old coast-defence battle-ship "Indomptable" has now almost been completed at Toulon, and it is hoped she will commence her trials before the end of the year; she ought to have been completed six months ago, but there have been some unavoidable delays. She has received new boilers of the old cylindrical type, and her two 42-cm. (16.5-inch) 75-ton guns, which were carried

in barbettes, one forward and one aft, have been replaced by two 27·4-cm. (10·8-inch) 45-calibre guns of the latest model in closed turrets, which, with the guns, can be worked either by electricity or hand. The necessary work in laying off the plans for the new first-class armoured cruiser "Victor Hugo" is being carried out at the mould-loft in the dockyard, and also for the six new submarines which are to be constructed on the Mourillon slips.

*Cherbourg.*—The old coast-defence battle-ship "Requin," which, like her sister-ship "Indomptable" at Toulon, has been undergoing reconstruction, was commissioned on the 10th ult. for her trials, but she is even now not quite completed, as the angles of her superstructure are not yet ready to receive the four 10-cm. (3·9-inch) guns, which will form part of her secondary armament, although her two 10·8 inch guns are in place in her turrets.

The new second-class battle-ship "Henri IV." is being pushed on, but it is quite impossible as yet to fix a date for her trials, as the delivery of her machinery has been so much delayed. Of her secondary battery of seven 13·8-cm. (5·38-inch) guns, only one, which is mounted in a turret, above the after 10·8-inch gun, as a stern chaser, is as yet in place.

The new submergible boats of the "Narval" type, are continuing their trials, both the "Triton" and the "Sirène" having given, on the whole, satisfactory results; the "Sirène's" last trial was for 24 hours, four of which were spent under water, her time for actual submersion from the beginning of the plunge was five minutes, and her stability and habitability are reported to be good, but they are not considered by competent judges to be as good as the submarine boats proper, like the "Morse," "Français," and "Algérien," which can be manœuvred with much more certainty. Their great—one may say fatal—defect is the slowness of their submergence. If they are ever sighted by an enemy's cruiser, battle-ship, or destroyer, their doom is sealed. Under the most favourable conditions it takes fifteen minutes from the time they begin to fill their ballast tanks for submergence—and longer if attempting to go ahead. A destroyer can run 6 or 7 miles in fifteen minutes, and a cruiser or battle-ship at least 4 miles. The "Narval" type could, therefore, never approach within striking distance of an enemy without reasonable certainty of being destroyed, unless they operate as submarines. The "Espadon," the latest to be completed here, made her trial plunge on the 18th ult. She took 8 minutes to sink to a depth of 26 feet, and she remained submerged for 2½ hours; on rising she came to the surface at once, where her full speed is 10 knots. The "Silure," the last of the four of this type, was launched on the 29th ult., and she is the eighth submarine now afloat at that port. She is of the modified "Narval" type, and possesses the advantage of being able to recharge her own accumulators, whereas vessels of the "Morse" type, such as the "Français" and "Algérien," have to recharge theirs at some electrical station. There are at present no more submergible boats under construction at this yard. It is stated that the new submarine boats already commenced, or to be commenced this year, will have a double motive power like the submergible boats; that is to say, a vapour or gas engine and electric accumulators. They will not be, however, submergible boats of the "Narval" and "Sirène" type, but true submarines in the proper sense of the word; only they will have a motor for propulsion when at the surface and for recharging the accumulators—the latter being used only when submerged. In a word, they will realise up to a certain point the autonomous type of submarine boat. They will have a radius of action a little more extended than that of the purely submarine boat, and will plunge more quickly than the "Narval" and "Sirène," which are obliged to fill the ballast tanks between the hulls—a long operation as we know. The newer submarines, thanks to their small dimensions, will be easy to manœuvre. But one must not forget that, like all submarines, they are, above all, fair-weather weapons, and particularly weapons for use during daylight. At night, in a calm—or nearly calm—sea, they can still operate; but, unlike the ordinary torpedo-boat, they are not an arm whose most effective work is night attack. The submarine boat "Morse" will very soon make a descent and remain submerged for 16 hours, in the course of which a tablet prepared by Dr. Gibart will be

tested. The tablet will be applied to the lips and nostrils in order to prevent the inhalation of toxic gases with which the air of submarine boats is charged. A submarine boat of a new type designed by M. Romazotti, the designer of the "Morse," is to be built here. It will be an experimental boat, costing 499,400 francs (£19,976), and will differ notably from the other little vessels of this sort which are to be built in this yard. These last will cost 365,400 francs (£14,616) each, and there will be seven of them. They will have a displacement of 68 tons only, a length of 23.5 metres (77.1 feet), and a beam of 2.26 metres (7.4 feet). The only motive power will be electricity supplied by accumulators. Four of them have already been named—the "Naiade," "Protée," "Lynx," "Ludion."

The sea-going torpedo-boat "Bourasque" has established a speed record for boats of her class. Leaving Havre at 10.45 a.m., she arrived at Cherbourg at 1.15 p.m., accomplishing the distance of 53½ kilometres at a mean speed of 29 knots.

**Brest.**—The new first-class battle-ship "Suffren" was commissioned for her trials on the 10th ult. with a reduced complement. In every way this ship is superior to any of her predecessors; thus, while in the "Iéna" the heavy armour belt only rises to about 2 feet 9 inches above the water, the "Suffren's" is some 6 inches higher, and the whole side above from the bows to the after turret is protected up to the main deck by a belt of 5-inch armour, tapering to 3.5 inches forward, thus protecting the bases of the turrets and casemates for the secondary armament, which, in the "Charlemagne" class and "Iéna," are quite unprotected. Moreover she carries ten 16.4-cm. (6.3-inch) Q.F. guns in place of the "Iéna's" eight, six being in small turrets and four in casemates.

Work on the new first-class armoured cruiser "Marseilles" is so far advanced that a captain has been appointed to superintend her completion.

The first-class armoured cruiser "Léon Gambetta," 12,550 tons, was launched at Brest in the presence of the Minister of Marine, on the 26th October. Her dimensions and armament were given in last month's Naval Notes. She has been constructed with great rapidity; for some years the arsenal at Brest has made great progress in this direction, and the launch of the "Léon Gambetta" marks a still further gain. The following table allows of a comparison being made of the recently constructed vessels at Brest.

Ship.						Weight of Hull when Launched.	Number of Days before Launching.
						Tons.	
Charlemagne	...	...	...	...	...	2,706	315
Gaulois	...	...	...	...	...	2,488	315
Iéna	...	...	...	...	...	2,828	281
Suffren	...	...	...	...	...	3,070	284
La Marseillaise	...	...	...	...	...	2,905	267
Léon Gambetta	...	...	...	...	...	3,480	300

The plans of the latter were sent to Brest on 20th July, 1900, and she was laid down on 15th January last, the vessel was therefore 9 months and 10 days on the stocks. She is to be ready for trial in 1903, the total period of construction will thus not exceed 3 years. Her cost is 29,248,500 francs (£1,169,940), and she is the largest armoured cruiser yet built by France.

**Lorient.**—The second-class cruiser "Isly" has returned from service on the Newfoundland and Icelandic fisheries, at the conclusion of the season, and has been placed, for the winter in the Second Category of the Reserve; during the run from Newfoundland home she has maintained a mean speed of 16 knots. There is some talk of replacing her and her sister-ship the "Jean Bart's" cylindrical boilers with water-tubes, but both ships still steam so well, that it is the opinion of the dockyard authorities that it is better to leave them as they are, at least as long as their boilers remain efficient.

The Minister of Marine has concluded a contract with the Compagnie des Chantiers de la Loire for the construction of two new torpedo-boat destroyers, which will be sent to this port for their trials; they are to be called the "Pistolet" and "Bélier." With a displacement of 302 tons, a length of 175 feet, a beam of 20 feet 6 inches, and a mean draught of 9 feet, they are to steam 28 knots; two other sister vessels, the "Mousquet" and "Javeline," are also to carry out their trials here when ready.

*The Défenses Mobiles.*—Vice-Admiral Fournier, who is on a tour of inspection of the *Défenses Mobiles* seems to be not altogether satisfied with the results of his inspection at Toulon. Having inspected the crews on the morning of the 21st ult., he gave orders at 9 a.m. for the A Division, consisting of the first-class torpedo-boats 216, 218, 219, 220, 245 and 246, to get up steam; this was done in three hours, and the flotilla weighed at noon, proceeding to Villefranche, each boat having one live and one dummy exercise torpedo in its tubes; as these boats are kept mobilised they were in very good order, and the Admiral expressed himself satisfied. He then ordered two of the Reserve Divisions to be mobilised, which were composed of the following vessels: 1st Division.—"Argonaute," "Tornante," 168, 193, 217, and 248. 2nd Division.—62, 95, 93, 125, 132, 134, 135, and 141. In the evening the flotilla left for St. Tropez, but the sea being rough they put into Brégaillon. The crews showed a want of cohesion and training, and were not equal to the proper handling of torpedo-boats. The commanders were, many of them, deficient in the experience necessary to make the most of the boats they commanded. The *Yacht* remarks that:—"It is evident that it is only on the commissioned torpedo-boat flotillas that reliance can be placed in war, and that very little can be placed on the torpedo-boat reserve; even though there may be officers who understand these boats, the chances are that they will be placed under officers senior to them who know little or nothing about their handling, unless some system of selection at present non-existing is adopted. It is suggested, therefore, that the Admiral's Chief of the Staff should keep a list of all officers who have commanded torpedo-boats, and, above all, torpedo-boats in the *Défense Mobile*, who should be told off for the Reserve Divisions, and that no officer without experience of torpedo-boat work should be at their head. Besides the twenty torpedo-boats, including the six in regular commission and those mobilised, inspected by Admiral Fournier, there were thirty more at Toulon, more or less ready for service, it may, therefore, well be asked if the Admiral found that the fourteen he did mobilise gave such bad results, what would happen if the remainder had to be commissioned? It seems quite evident that some new organisation must be found."

The torpedo-boats of the *Défense Mobile* of Corsica seems to be persistently unlucky; when the flotilla was exercising lately to the south of the Sanguinaires Islands, No. 124 was run into by No. 139; she was taken in tow by No. 99, but the bulkhead before the stokehold having given way, she sank in deep water beyond all chance of recovery. There were no lives lost and nobody was hurt, and No. 139 was able to return to port without assistance. Both 124 and 139 are of an old type, the first being 115 feet long, and the other 110, with a speed of 20 knots; they carried two torpedo-tubes and a spar torpedo, with two 1-pounders.

*The Montupet Boiler.*—Although the result of the official trials of the Montupet water-tube boilers has not been published by the French Government, it is known from previous trials that the tubes can be very quickly removed and replaced. In one of these trials, which lasted four hours, the fires were reduced, the steam pressure lessened, the boilers emptied, and a tube removed—all in the space of fifteen minutes. The tube was then replaced and the steam pressure immediately restored. The total interruption to the proper working of the boiler lasted forty minutes, and of this only eight to ten minutes were employed in removing and replacing the tube. Later, when the fires were out and the boiler had cooled, thirty-two tubes were removed in one hour and twenty minutes. All the tubes were found to be in good condition.—*Le Yacht, Le Temps, and Mittheilungen aus dem Gebiete des Seewesens.*



**RUSSIA.—New Ships.**—On the 3rd August, in the presence of the Tsar, at the Baltic shipbuilding yard, the launch took place of the battle-ship "Imperator Alexander III." built on the lines of the "Borodino," but somewhat modified. Her principal dimensions are as follows :—Length between perpendiculars, 376 feet 5 inches ; extreme length with ram, 398 feet 1 inch ; extreme beam with sheathing, 76 feet ; draught on an even keel, 26 feet ; displacement, 13,516 tons ; I.H.P., 15,800 ; speed, 18 knots ; full coal stowage, 1,250 tons. The engines intended for her are being constructed from original plans drawn up at the same yard, and are twin-screwed of the usual triple-expansion type. All the plans for the hull, engines, and Belleville boilers were worked out at the yard, and they and the turbines constructed there. The boilers are twenty in number, placed in two compartments, forming four stokeholds. The first plate of the keel was laid in September, 1899. She will be armed with four 12-inch, twelve 6-inch, twenty 75-millimetre (14-pounder), twenty-four 47-millimetre (3-pounder), and six 37-millimetre (1·7-pounder) guns, in all sixty-two in number, the 12- and 6-inch guns being carried in pairs in revolving turrets. The armour is so distributed as to protect the armament and vital parts, there being two armoured decks, and armoured bulkheads. The hull is protected by a broad water-line belt of 9-inch Krupp armour tapering to 4 and 2·5 inches at the extremities ; the turrets for the heavy guns are protected by 11-inch armour, with 10-inch at the bases ; the turrets for the 6-inch Q.F. guns have 6-inch armour with 3-inch bases, while the hull below the water-line belt is protected for a considerable depth by 4-inch nickel steel plating. The torpedo armament will consist of one above-water and five submerged tubes. Between the double bottoms there will be 167 water-tight compartments. Krupp supplied the nickel steel, and a small part of the other armour came from the Carnegie Works, the rest being of home manufacture.

The sister-ship "Borodino" is now fast approaching completion at the New Admiralty Works, while the first Russian coaling-ship the "Kamchatka" is being pushed on at the same yard. The first-class cruiser "Aurora" is also approaching completion at the Franco-Russian Works, but her armament and many of her fittings are not ready, nor have her masts been fixed ; she will not be ready for sea till the autumn of next year. The first-class cruiser "Diana," like the preceding, is being pushed on and is further advanced ; her water-tight compartments have been successfully tested, and the engines are nearly ready for trial. The "Pallada," yet another first-class cruiser, will be ready in all respects in some six weeks. All her armament, main and auxiliary, is already in place, and the torpedo fittings completed. She is to leave for foreign waters before the end of the year.

The new first-class battle-ship "Pobieda," at the Baltic Shipbuilding Works, has her turret guns already in position, though not her medium armament or her torpedo fittings ; the armour of the after turret is not yet all in place or all the side armour. The interior arrangements are mostly complete, the mast fixed and the rigging in process of being so. The new first-class battle-ship "Oslabiya" is now ready for her steam trials ; the principal engines, the work of the Baltic Yard, were ready as long ago as last autumn, but in view of the backward state of the turbines, the trials were then postponed.

The Schichan Yard at Elbing has just received an order for the building of a new cruiser of an improved "Novik" type. The work is already in hand, and the vessel is to have a speed of 25 knots with engines of 18,000-H.P., and a displacement of some 3,900 tons.

The launch of the third-class cruiser "Boyarin" took place recently at Copenhagen at Burmeister and Wain's Yard. Her length at the load water-line is 355 feet ; extreme beam, 41 feet 6 inches ; average draught, 16 feet ; displacement, 3,200 tons. Her propelling power consists of two 4-cylinder triple-expansion engines, each driving a separate screw. The whole power of the main and auxiliary engines is 11,500. The estimated speed is 22 knots. The boilers are of the Belleville type with economisers, sixteen in number, placed in three separate groups. The coal bunkers have a capacity, when full, of 600 tons, which at a modified speed of 11 knots is sufficient for 5,000 miles. Her armament will be six 120-millimetre (4·7-inch) guns, eight 47-millimetre

(3-pounder), two 37-millimetre boat guns, two Maxim small-bores, one Baranovski gun, and five under-water tubes for 18-inch Whitehead torpedoes, four on the broadside and one astern. She has an armoured deck almost her whole length, and also to protect the vital parts, *i.e.*, the boiler and engine rooms and magazines, broadside and transversal cofferdams. The conning-tower is also armoured, and the various communications and ammunition hoists. Her crew will comprise 14 officers and 320 men.

The "Kamchatka," already mentioned, will have 7,200 tons displacement, and her steam boilers are ordered of the Franco-Russian Works. They are six in number, of the Belleville pattern, with a total heating area of 9,388 square feet and grate area of 2,964 square feet, without economisers, and are to develop 2,800-H.P. with 240 lbs. pressure of steam.

At the Neva Yard they are proceeding to lay down two new cruisers of the "Novik" type and one at least of the torpedo-boats of the "Cyklov" type, of which five are to be laid down when there is room for them. At present there are eight of the "Sokol" type building there, but one will soon be launched.

It is now stated on good authority that the launch of the "Oryol," the battle-ship building at the Galerny Ostrovok, will not take place till May of next year. The report that she would be launched this autumn is unfounded.

At the Baltic Shipbuilding Yard the construction of another first-class battle-ship to be called the "Kniaz Suvarov" has been taken in hand.

*Steam Trials.*—The torpedo depot-ship "Yenisei" recently carried out her trials under the eye of Rear-Admiral Kasherininov, those previously held having been cut short by the twisting of the blades of the port screw. Six diagrams were taken and four trips made over the measured mile, the mean speed being taken at 17.94 knots, the greatest attained being 18.1 knots. The engines worked satisfactorily, developing 4,958-I.H.P., or 258-H.P. over the contract, and no difficulty was experienced in keeping steam, but the expenditure of coal registered was somewhat high, being 4 lbs. per I.H.P. The sister ship "Amur" also successfully underwent a second trial under the eyes of the same Admiral as President of the Commission. The mean speed attained in four trips on the measured mile was 17.44 knots:—First trip 17.44 knots, second trip 17.87 knots, third trip 16.86 knots, fourth trip 17.62 knots; average, 17.44 knots. The steam was ample at a pressure of about 250 lbs., and both engines worked quite satisfactorily without heating of the bearings, making on an average 160 revolutions. The expenditure of coal registered was some six tons for all the boilers per hour, or nearly 2.7 lbs. per H.P. per hour.

The torpedo-vessel "Yastreb," built at the Ijora Yard, recently had her steam trials for the official testing of the engines and ascertaining her speed under forced draught. They were held under the superintendence of Rear-Admiral Kasherininov and the experts from the yard, and two runs were first made on the measured mile, giving—first run, speed 26.67 knots, second run 27.01 knots; later the engines were tested by a four hours' continuous trial at 9 of the full speed with 352 revolutions, after which two further speed runs were made, giving—third run, speed 26.97 knots, fourth run 25.47 knots, or a mean speed for the four runs of 26.53 knots, or .03 knot more than the contract. The engines made from 392 to 396 revolutions at a pressure of 190 lbs. of working steam in all eight of the boilers. The steam was kept uniformly, and the engines worked quite satisfactorily. The yard will shortly hold trials of the torpedo-vessel "Nyrok," and No. 130, built on the type of the "Pernov."

The torpedo-vessel "Gagara," built by the Neva Engineering Works, has been on the measured mile to test her engines and speed. She has four boilers of a modified Yarrow type, and gave a speed of 27 knots, but was forced to put back into Kronstadt owing to a breakdown. The "Moskva," one of the vessels accompanying her, is fitted with a Du Temple boiler, heated by naphtha, and is being closely watched by the representatives of the yard. The torpedo-boats of the "Sokol" type built by the Ijora Works have, it should be noted, eight water-tube boilers.

*The Arctic Expedition with the ice-breaker "Yermak."*—Admiral Makharov writes from Spitzbergen :—"I find the 'Yermak' in excellent trim and doing good work. Everything seems to promise success. I am leaving Tromsø for the North Cape, from which I shall make for the Admiralty peninsula in Novaia Zemlia, thus reaching the limit of the Gulf Stream, and then shall zigzag along it, mapping out its course. It probably has no vertical limit, but a horizontal, and the heavy water goes down rather than up. That we mean to find out. I shall leave my first message there, and the next at Ice Cape at the northern extremity of Novaia Zemlia. I mean if time and coal permit to go round the island, and chart it as far as the Matochkinshar, where I shall meet Borisov, or else leave a fresh message. From the north-east extremity I shall proceed straight to Port Dickson. Deep-sea soundings on this route will throw light on the question of the Kara Sea. At that port I shall get news of Baron Toll's expedition and leave a letter and a depôt, and then go to Lonely Island and do the same. With luck, I hope to get along the northern side of the Franz Joseph Islands, and go as far north from there as the ice will allow. I want to explore the land we saw and Gilli Land. If things do not go well, I shall go along the south of Franz Joseph Land, leaving a letter at Cape Flora. If we get through soon, I may try to make to the west of Spitzbergen to study the depth of the Greenland current and the configuration of the bottom. Of course all this cannot be done in the two or three months we have, so a good deal must be left out. At this moment Baldwin and Ziegler are getting together 400 dogs and 18 horses for an expedition, and after forming a station in Franz Joseph Land, will make for the Pole with a party of 30. The horses will, after the first part of the journey, furnish meat for the men and dogs. Ziegler is said to have sworn to reach the Pole or not show himself again in New York. I have got from Nansen two excellent barometers, and from Richter two incomparable thermometers. We have tried the kite, and it works well. We mean to set bottles afloat every 50 miles. The news, when received, will be taken to the Central Hydrographic Office."—*Kronstädtski Viestnik*.

*The Russian Combined Naval and Military Manœuvres of 1901.*—The combined manœuvres took place between the 14th and 26th August in the neighbourhood of St. Petersburg; the Grand Duke Vladimir, uncle of the Tsar, being in chief command. The scheme of the manœuvres was as follows :—A hostile Western Army, supported by a superior fleet, lands at Reval and operates against St. Petersburg. The Eastern Army is to cover the capital and guard against any further landings in the neighbourhood of St. Petersburg; while the works of Kronstadt are to prevent the enemy's fleet from making a direct attack upon the capital.

The following troops took part in the manœuvres :—The Guard, 1st and 18th Army Corps, the Cadets from the Military Schools, the 1st Sapper Brigade, the Garrison of Kronstadt, the 4th Howitzer Regiment, the 1st, 4th, 7th and 8th Finnish Rifle Regiments and the Finnish Dragoon Regiment: in all, 141½ battalions, 53 squadrons and 230 field guns.

The only ships on the side of the defenders were some torpedo-boats and coast-patrol vessels, while the fleet of the attacking force consisted of the following vessels :—

Coast-defence battle-ships—"Admiral Ushakoff," "Admiral Senjavin," "Admiral Lazareff," "Admiral Greig."

First-class armoured cruisers—"Minim," "Pamiat Azova."

Second-class cruiser—"Asia."

Torpedo-boat destroyer—"Voievoda."

Transports—"Siamoiel," "Krasnaia Gorka," and some torpedo-boats.

The course of the manœuvres was as follows :—On the 14th August both sides had taken up pre-arranged positions. The Western Army landed at Reval was at Wesenberg, about halfway between that place and Narva, awaiting reinforcements. The fleet lay off Reval. The main body of the defending army was at St. Petersburg and Krasnoe-Selo, while detachments for defence of the coast were pushed forward as far as Vyborg in the north and to the neighbourhood of Narva in the south. The

distance between the headquarters of the two opposing armies was about 260 kilometres (roughly about 170 miles). On the following days both armies moved forward, and on the 17th August the outposts for the first time came into collision with each other, and on the 18th there was a skirmish west of Narva between the cavalry of the advanced guards. On the 19th the advanced guard of the invaders with the cavalry reached the Narova, between Narva and Hungerburg, 15 squadrons with 12 guns crossing on a pontoon-bridge, while the infantry, 16 battalions with 20 guns and 6 squadrons, was at Narva, after driving off the Preobrajenski Regiment, which had been entrenched some 3 kilometres to the west of the town. On the 20th August the main body crossed the river, while the cavalry scouted as far as the Luga and made preparations for blowing up the bridge. At noon also on the same day the fleet weighed from Reval conveying eight hired transports, on board which were embarked the 23rd Division, with the 2nd Division of the 23rd Artillery Brigade, in order to effect a landing somewhere on the north coast.

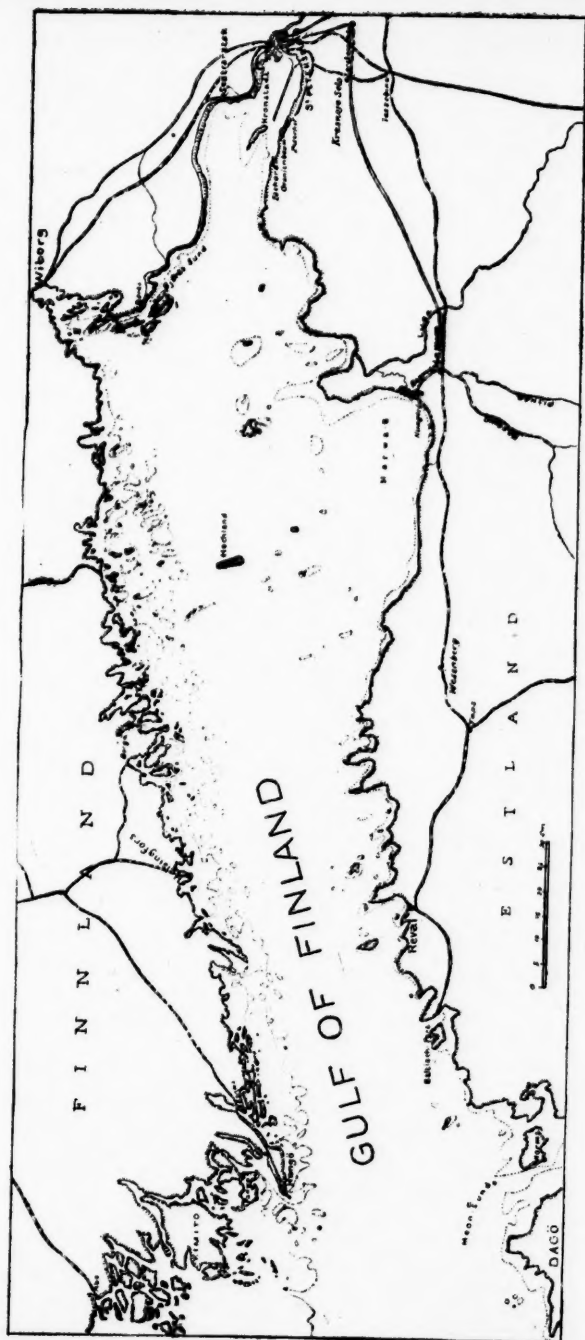
On the 21st August both armies continued, their advance south, but the defending force was not able to attack the enemy, who thus was able to cross the Luga almost unhindered, and extricate himself from a somewhat dangerous position between the Narova and the Luga. On the same day the 23rd Division was landed under the protection of the fleet at the village of Björko on the sound of the same name and dislodged the Finnish troops, who opposed them. On the 22nd the troops rested. On the 23rd August the invading army in the south moved forward, while the leader of the defenders, on the receipt of the news that a landing of the enemy had been effected to the north of St. Petersburg, drew his forces in nearer the capital. The 23rd Division, on its part, driving before it the Vyborg detachment advanced towards the defenders' capital. On the same afternoon the ships made a demonstration against the fortifications of Kronstadt. On the 24th the converging forward movement of the invaders was continued, the defenders taking up a strong position at Krasnoe-Selo, where they intended to offer battle to the enemy. On the 25th August both armies rested again. On the 26th August two decisive battles were fought, one at Krasnoe-Selo, the other to the north of St. Petersburg. At 1 p.m. the Tsar, who was present at Krasnoe-Selo, declared the manœuvres over.

The two most interesting parts of the manœuvres were the conveyance of the force from Reval to the Björko Sound and their disembarkation, and the defence of Kronstadt.

After several days' practice at Reval in embarking and disembarking, on the morning of the 20th August the 23rd Artillery Division and the 2nd Division of the 23rd Artillery Brigade were definitively embarked upon hired transports and the conveying fleet. Of the hired transports only one was Russian, the other seven being Danish.

The conveying fleet consisted of the following vessels :—The coast-defence ships "Admiral Senjavin," "Admiral Oushakoff," "Admiral Lazareff" and "Admiral Greig"; the cruisers "Minim," "Pamiat Azova," and "Asia"; the torpedo-avisos "Voievoda"; the transports "Krasnaia-Gorka" and "Siamoiel," with four torpedo-boats. On the 20th August this squadron left Reval roadstead with the transports. The officer in command and the commander of the troops were embarked on board the cruiser "Minim." The transports were marked with large numbers on their funnels and carried landing pontoons. The squadron was formed as follows :—In the centre were the eight transports and the four war-vessels employed in carrying troops, viz., the "Asia," "Voievoda," "Siamoiel" and "Krasnaia-Gorka" in double column line ahead; on each side were two of the coast-defence vessels and two torpedo-boats, while the "Minim" lead the squadron, the "Pamiat Azova" being astern. Unmolested, the fleet arrived on the morning of the 21st August off the Björko Sound, the enemy's torpedoes having failed to come across the convoy during the night. The "Voievoda," with the torpedo-boats was here detached to scout ahead and look out for a suitable spot where the troops could be landed. The rest of the squadron formed line ahead, preparatory to entering the sound, the transport being in the centre. At

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this time the Imperial yacht "Standart," with the Tsar on board, accompanied by the cruiser "Svetlana," flying the flag of the Grand-Admiral, the Grand-Duke Alexis arrived, and the Imperial party witnessed the landing of the troops. After the torpedo-boats had driven off one of the enemy's torpedo-boats and ascertained that there were no more hostile vessels in the vicinity, about 3 p.m. the fleet anchored off Björkö village and opened fire on that part of the shore fixed upon for the landing. No enemy being discoverable, the landing detachments of the ships proceeded up the bay; fire however was suddenly opened about 4.30 p.m. upon the boats from two Finnish regiments and a 6-gun howitzer battery, which had in the meantime come up. The direction of the boats was accordingly altered and a landing finally effected unopposed at a point north of Björkö village outside the bay, while the ships opened fire on the howitzer battery. Not till after the seamen with their guns had secured a firm position on shore, were they attacked by the two battalions, who however failed then to dislodge them. As soon as the seamen were landed, the disembarkation of the troops commenced on the strand; no special gangways were used, the men wading when the boats touched the ground; the baggage, etc., was brought ashore in the large pontoons carried by the transports. At 7 p.m. the landing of the artillery commenced, with only such horses as were necessary for the guns and train; the guns, ammunition, hospital, and provision wagons being all put over the side of the boats and pontoons into the water, as soon as these touched bottom. By 11 p.m., all the troops, 16 battalions of infantry and 21 guns had been disembarked, when the seamen returned to their ships. The landing of the train went on all night, while owing to the weakness of the defenders no opposition was made to the advance of the invading force.

The next day the force rested; early on the 23rd the fleet left the Björkö Sound and attempted an attack upon the fortification of Kronstadt, where the garrison had been mobilised and the works put in a condition of defence. On the southern shore of the Gulf of Finland close to Klein-Ischora village the Guard-Sapper Battalion had thrown up three batteries for coast-defence, and on the north side at Sestorezt the 1st Sapper Battalion had done the same. The whole defence was divided into four sections:—

1. The batteries at Ischora and those covering the southern channel.
2. The forts Constantine and Miljutin.
3. The batteries on Kotlin Island.
4. The batteries covering the northern channel and at Sestorezt.

The headquarters had established themselves at Fort Miljutin; the fortress artillery and half the fortress infantry manned the works, while the other half of the fortress infantry were disposed on the points of Kotlin Island in readiness to repulse any attempt at landing. A railway company, with a locomotive under steam, was at the disposal of the officer in command to transport a movable Canon battery to any point where it might be required. The mining company, strengthened by some specially instructed fortress infantrymen, laid down the mine-fields.

The following regulations were laid down:—Night attacks by boats on the front of the batteries were to be considered as without result.

An attack by the channel would be considered successful if the boats arrived unobserved within a less distance than 100 metres from the battery.

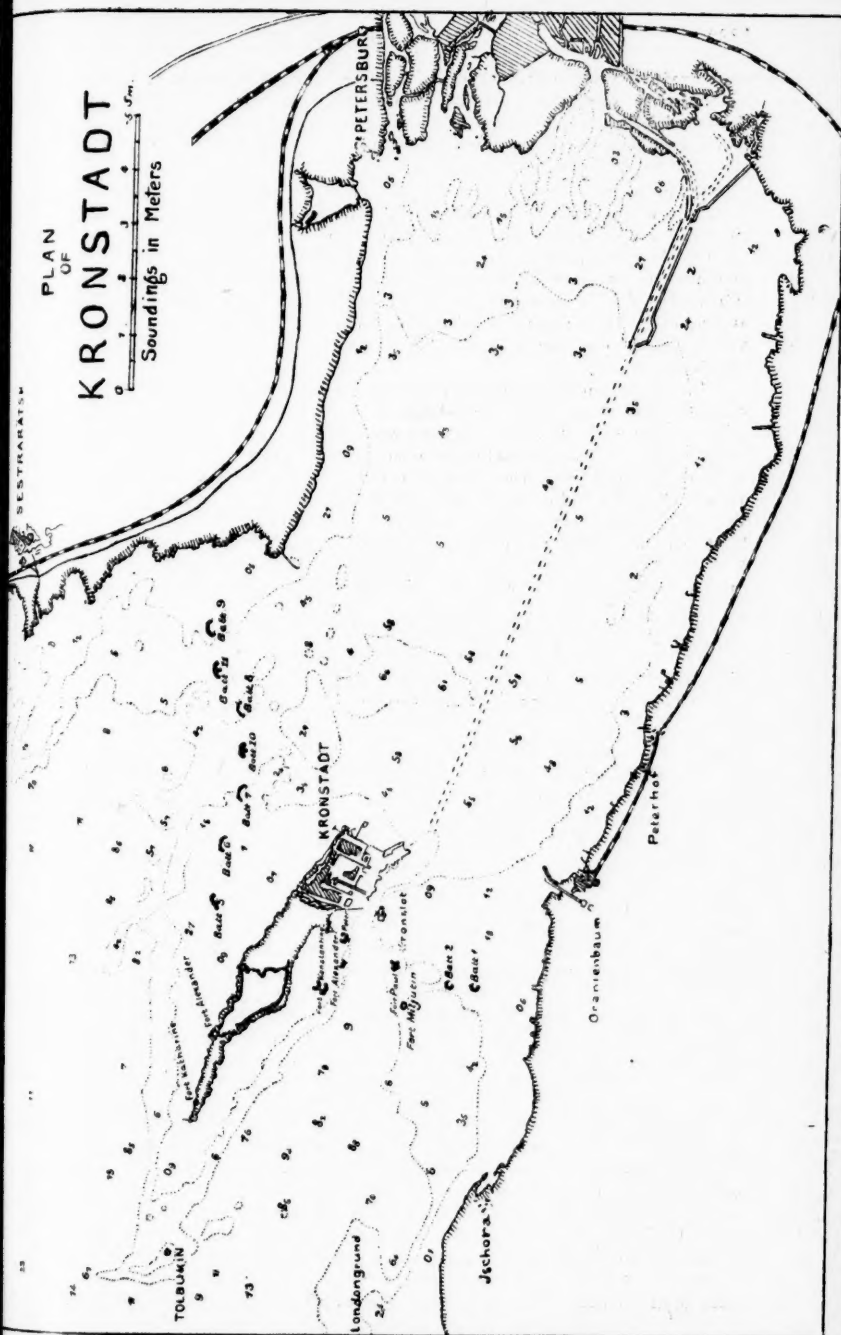
A landing at Sestorezt was forbidden, as also the navigation eastward of the bay of the south channel.

Battle-ships which were under the fire of the mortar batteries for half-an-hour at less than 5,500 metres, or for the same time under the direct fire of two or more batteries, were considered out of action. Torpedo-boats and steam-pinnaces which approached the booms were considered destroyed, if under fire from one gun for three minutes, or if under fire from 2, 3, 4, or 5 guns for 2.5, 2, 1.5, and 1 minute respectively; similarly at night-time they would be put out of action if discovered by a search-light, or the naked eye, and fire was opened upon them. On the other hand, a mine was considered harmless if at night-time two or more boats passed over its position.





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unobserved; when this was done it was to be signalled by means of two white lanterns or the burning of a blue light. Similarly booms were considered destroyed if a torpedo or steam-boat approached them closely during the night unobserved, and provided with explosives for destroying them. The booms could be replaced in 20 minutes if the enemy had not burnt them.

On 16th August target-practice from the guns of the forts was carried out on an extensive scale in accordance with the following idea:—A hostile fleet had so weakened the works by a previously prepared bombardment, that it had determined to force the Southern Channel, and then land troops to seize the south batteries. In order to determine the position of the different obstructions, the small vessels were sent ahead to reconnoitre. These vessels were represented by targets which were towed across the batteries of the south channel and Forts Constantine and Miljutin, while a fixed target and a movable one were laid out before the batteries of Kotlin Island. In all 188 rounds were fired.

For the rest, during the manœuvres, every opportunity was taken of practising the communication of orders, by the ordinary methods, the telephone, and wireless telegraphy. Two night attacks on the forts were made, in one of which the ships were under fire for forty minutes, and in the other for twenty minutes only; but full details have not been published. The orders to the forts were, that the howitzers were to open fire at 8,000 yards, and the other guns when the ships were within a practicable range; the works commanding the southern channel and the batteries at Ischora, in view of their somewhat obsolete armament, were to open fire at 5,000 metres and direct their guns principally against the lighter vessels and attempts at landing. A submarine mining vessel was kept under shelter of Fort Miljutin in readiness, should her services be required.

At the conclusion of the manœuvres the Tsar addressed a letter in his own handwriting to the Grand Dukes Vladimir and Alexis, expressing his complete satisfaction with the course of the manœuvres and especially with the successful co-operation of the naval and military forces.—*Marine Rundschau*.

UNITED STATES.—*Admiral Crowninshield's Report for 1900*.—The annual report of the Chief of the Bureau of Navigation, Rear-Admiral A. S. Crowninshield, U.S.N., for last year, shows very clearly how imperative is the need of an increase of the *personnel* of our Navy, so that it may go hand in hand with the increase in the number of vessels. The Bureau urges the Department to adopt a system, which has been found satisfactory in foreign administration, of requesting Congress in authorising an increase of vessels to authorise at the same time an increase in the Navy List corresponding exactly with the officers and men required to man the new vessels. The following two examples—England, whose programme is annual, and Germany, whose programme covers a period of sixteen years—will illustrate. Corresponding to the programme of new construction which England proposes to lay down this year, an increase of 4,240 in the naval *personnel* was voted. The new German Naval Bill practically doubles the present fleet in 1916 by providing for a certain number of ships to be constructed each year. This increase in *matériel* necessitates a corresponding increase in *personnel*, which has been provided for by a total increase at the end of twenty years of 35,551 officers and men. This total is to be attained by an annual increase of 89 officers and 1,687 men.

In further reference to this important subject, Admiral Crowninshield says in part: "The needs for officers have grown more urgent with the increased demands of the past year. The Bureau can point directly to the many respects in which the Service is being harmed by lack of officers. The course at the Naval Academy is suffering for dearth of officers. Every bureau and office in the Navy Department is short of officers to do necessary work. If careful supervision of drills is unavoidably to be neglected, if we are compelled to use in certain instances old types of ordnance, machinery or equipment through lack of officers to give the necessary technical supervision in the bureaus, the Service will soon fall behind in its struggle, first, for leadership, and then for equality with other Services. The disability of the sea-going corps of officers has greatly

increased since the Spanish War. Having failed to provide enough officers to do the Navy's work, we are overworking those who are supplied. Many of those now in service are being broken down under the strain. Through not having more officers many of the best that we now have are being lost.

"The effects of the clause in the last Naval Appropriation Bill which authorised the employment of retired officers should be limited at once by the immediate repeal of the law. The authority vested by Congress in the Secretary of the Navy to employ officers on the retired list means, in a word, that those who are admittedly either incapacitated for duty or entitled to further exemption from duty, may be employed to bolster up a Navy List staggering under a weight of duties entirely disproportionate to its numbers. To go on the retired list to-day means that an officer may be ordered to duty as before, but that he may no longer advance grade by grade with his brothers doing the same duty on the active list. The retired list, which was intended to be a relief for disability incurred in the Government Service or a reward for long and faithful service, becomes a hardship or punishment if the law be executed; and since all in the Navy are approaching the retired list, the blow is felt by the Navy as a whole.

"There have been fewer officers on the active list of the Navy during the past year than before the passage of the *personnel* Act. For that Act, while it authorised an increase, failed to provide means for effecting the increase. It thus results, that the waste having increased, there are 131 vacancies on the Navy List at a time when vacancies can least be afforded. The Bureau urges below a largely increased Navy List, but in order to furnish an adequate supply for this increased Navy List, appointments to the Naval Academy for the next ten years should be quite double what they are now. No increase in *personnel* can be effective without increasing appointments to the Naval Academy, and no such increase in Naval Academy appointment will be effective until at least four years after authorised, when the new appointments are first available for cruising duty.

"Under present circumstances any increase in *personnel* authorised by Congress should be made immediately available, for the officers and men are needed now to man the vessels already built and those under construction or authorised for which no crews have been provided. It has always been the policy of the Government to regard its regular establishment of the Navy and Army as a nucleus about which a larger establishment would be formed in case of war. The present establishment, however, can no longer be considered as an effective nucleus for such a purpose. It barely sufficed for the Spanish War; and were the fleet to be manned with full complements, as it would necessarily be if called upon to fight a first-class European Power, the present *personnel* would form barely one-fourth of the total establishment.

"The Bureau requests that the Department, before submitting to Congress its estimates for new vessels, will call upon it for estimates to be submitted at the same time for an increase in officers and men to man the vessels now out of commission, new vessels, others now under construction or authorised, and the additional ones for which the Department may ask.

"The 100 warrant machinists authorised by the act of Congress of the 3rd March, 1899, are an efficient and valuable branch. An increase in the number of this class is much needed. Of the 100, 99 are on cruising duty, and with the present demands for officers for engineering duty, it will be impossible to give them shore duty. Engineering duty afloat is now being performed by these 99 warrant machinists, by 25 officers who have always been of the line, and by 32 officers of the former Engineer Corps, making 156 officers performing engineering duty afloat, which, in addition to the 35 performing engineering duty on shore, makes 191 officers performing engineering duty, a number somewhat greater than the total of commissioned officers of the old Engineer Corps. Of the total of 66 officers of the former Engineer Corps available for engineering duty only, over half were performing shore duty on the 1st October. It would seem that for the present further details for engineering duty afloat will have to be made by details from this class. The junior line officers on board cruising ships are detailed for duty for instruction in the engine room.

"While the Bureau hopes that Congress will authorise the reward of gallant and conspicuous conduct by other measures than those established by existing law, it considers it its duty to place itself on record as again inviting the Department's attention to the discouraging condition in which distinguished officers of the Navy have been left by not receiving any form of recognition for their heroic services during the war with Spain. Most of those who failed to secure such recognition owe the loss to the unfortunate public controversy which followed upon the President's recommendation that certain officers should be promoted. It is needless to say that the Navy had no part in this controversy.

"This Bureau does not urge consideration for the individual as a reason for giving reward. It is simply that the Navy may be honoured in having its distinguished officers honoured. Foreign Governments recognise completely that rewards should follow promptly and as a matter of course close upon the information of a gallant deed. Yet our officers' warmest encomiums of those under them have so far failed to bring recognition to any except those who shared in the victory at Manila and three who served elsewhere in the war."

Admiral Crowninshield's report shows that the present demand for naval vessels exceeds the supply. We have no longer any Mediterranean Squadron, but the deficiency is in some measure supplied by the vessels passing to and fro *en route* to or from the East. The only loss of *matériel* we have sustained on the Asiatic station was when the "Charleston" ran on an uncharted reef. Owing to the discrepancies between charted and actual positions, it is fortunate that we have not had more accidents.

Attendance at local celebrations has seriously interfered with the drills on the Atlantic Station.

Over 800 naval commissions have been issued during the past fiscal year. There have been 24 resignations, including 16 naval cadets, 51 retirements, 38 deaths, and 2 dismissals.

Instruction in target practice on the "Amphitrite" has resulted in such marked improvement, that it is proposed to establish an advanced course for those who excel.

The total quota of the enlisted force allowed by law must shortly be increased by at least 5,000 men, and the Bureau commends to the Department its recommendation that hereafter in requesting authority to build ships Congress be requested to authorise the complement for these vessels to be immediately available upon the passing of the Act.

The training system for landsmen has added greatly to the facility and economy with which the complements of the vessels of the Asiatic station have been kept as nearly full as practicable.

The Bureau is of the fixed belief that practically every battle-ship and armoured cruiser in our small Navy is needed in full commission. There is useful and necessary duty for everyone of them. No increase in the Reserve system is expected. Were our Navy larger in comparison with our needs, motives of economy might make it wise to lay up vessels in reserve. Under present conditions, however, only those should be laid up in reserve which would otherwise have to go entirely out of commission.

The Bureau desires to put on record its appreciation of the assistance rendered it, the Department, and the Service during the past year by the United States Naval Institute.—*Army and Navy Journal*.

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## MILITARY NOTES.

### PRINCIPAL APPOINTMENTS AND PROMOTIONS FOR OCTOBER, 1901.

The King has been pleased to appoint Sir George S. Clarke, R.E., K.C.M.G., to be Governor of the State of Victoria and its Dependencies in the Commonwealth of Australia. The King has been pleased to appoint Sir Frank A. Swettenham, K.C.M.G., to be Governor and Commander-in-Chief of the Straits Settlements and their Dependencies. Lieut.-General T. Kelly-Kenny, C.B., to be Adjutant-General to the Forces. General H.R.H. the Duke of Connaught and Strathearn, K.G., K.T., K.P., G.C.B., G.C.S.I., G.C.M.G., G.C.I.E., G.C.V.O., to be a General on the Staff, Commanding the Forces in Ireland and the Third Army Corps. General Sir H. Evelyn Wood, V.C., G.C.B., G.C.M.G., from Adjutant-General to the Forces, to be a General on the Staff to command the Second Army Corps. Lieut.-Colonel A. G. Watson, h.p., to be Colonel. Lieut.-Colonel H. P. Willoughby, Ordnance Committee, to be Colonel. Lieut.-Colonel H. A. Scott, R.G.A., to be Colonel. Lieut.-Colonel W. H. Chippendale, R.E., to be Colonel. Lieut.-Colonel E. J. Bor, R.E., to be Colonel. Major-General E. D. Elliott (late Bengal) to be Colonel Commandant of the Royal Regiment of Artillery. Colonel H. T. S. Yates from an A.A.G. to be a Colonel on the Staff for Royal Artillery. Colonel W. L. Davidson from h.p. R.A. to be a Colonel on the Staff for Royal Artillery. Lieut.-Colonel W. B. Wilson, I.S.C., to be Colonel. Lieut.-Colonel and Brevet Colonel G. D. Stawell from an A.A.G. in India to be Director of Military Education in India, and to have the substantive rank of Colonel in the Army. Lieut.-Colonel and Brevet Colonel A. J. Nixon, from Chief Instructor School of Gunnery, to be a Colonel on the Staff for Royal Artillery, and to have the substantive rank of Colonel in the Army. Lieut.-Colonel G. L. E. May, h.p., to be Colonel. Lieut.-Colonel C. Hogge, I.S.C., to be Colonel. Lieut.-Colonel J. W. Hogge, C.I.E., I.S.C., to be Colonel. Lieut.-Colonel O. C. Radford, C.I.E., I.S.C., to be Colonel. Lieut.-Colonel S. H. Loma<sup>g</sup>, h.p., to be Colonel. Lieut.-Colonel W. R. Kenyon-Slaney, h.p., to be Colonel. To be Colonels on the Staff in India and to have the substantive rank of Colonel in the Army: Lieut.-Colonel and Brevet Colonel L. Dening, D.S.O., I.S.C.; Lieut.-Colonel and Brevet Colonel A. Howlett I.S.C.; Lieut.-Colonel and Brevet Colonel Sir C. H. Leslie, Bart., C.B., I.S.C. Colonel (now temporary Major-General) B. Duff, C.B., C.I.E., I.S.C., to be D.A.G. in India. To be A.A.G.'s in India and to have the substantive rank of Colonel in the Army:—Lieut.-Colonel J. B. Forster, from the Royal Irish Regiment, and Lieut.-Colonel W. B. Capper, from the Northamptonshire Regiment. Lieut.-Colonel A. J. Montgomery, R.F.A., to be Colonel. Lieut.-Colonel C. A. Anderson, an A.A.G. in India, is granted the substantive rank of Colonel in the Army. Field-Marshal H.M. the King to be Colonel-in-Chief of the Duke of Lancaster's Own Imperial Yeomanry. Field-Marshal H.M. the King to be Honorary Colonel of the Norfolk (King's Own) Imperial Yeomanry. Lieut.-Colonel J. S. Wood, h.p., to be Colonel.

HOME.—The following memorandum has been issued from the War Office:—

#### *I.—War Office Council.*

The Secretary of State has directed that in future the War Office Council shall be constituted as follows:—

*President.*

The Secretary of State for War.

*Members.*

The Commander-in-Chief.  
 The Parliamentary Under Secretary of State.  
 The Permanent Under Secretary of State.  
 The Financial Secretary.  
 The Quartermaster-General.  
 The Inspector-General of Fortifications.  
 The Director-General of Ordnance.  
 The Adjutant-General.  
 The Director-General of Mobilisation and Military Intelligence.  
 The Director-General, Army Medical Department (for medical and sanitary questions).  
 The Secretary of the Council.

And such other members of the staff of the War Office as may be specially summoned from time to time.

2. In the absence of the Secretary of State the Commander-in-Chief will act as president.

3. The Council will meet on Mondays, unless otherwise ordered, at 12 o'clock, in the Secretary of State's room.

4. The Council will discuss such matters as may be referred to it by the Secretary of State and any question brought before it by individual members. In order that a *précis* may be prepared, notice of the matters for discussion, together with the office papers on the subject, should reach the Secretary not later than the Wednesday evening before each meeting.

5. Records of the proceedings will be kept, and copies will be supplied to each member.

*II.—Permanent Executive Committee of the War Office.*

6. With the object of co-ordinating the business of the office and of ensuring that combined action may be taken in matters affecting more than one department, the Secretary of State has approved the formation of an Executive Committee, consisting of the following :—

The Permanent Under Secretary of State, or, in his absence, { Chairman.  
 The Assistant Under Secretary of State,

The Deputy Adjutant-General, or, in his absence, an officer selected by the Adjutant-General.

The Assistant Quartermaster-General, or officer selected by the Quartermaster-General.

A Deputy Inspector-General of Fortifications, or an officer selected by the Inspector-General of Fortifications.

The Deputy Director-General of Ordnance, or an officer selected by the Director-General of Ordnance.

An officer of the Mobilisation Section of the Department of the Director-General of Military Intelligence.

An officer of the Intelligence Section of the Department of the Director-General of Military Intelligence.

The Deputy Accountant-General or an Assistant Accountant-General.

The Deputy Director-General, Army Medical Department, or an officer selected by the Director-General.

The Assistant Director of Contracts.

The Secretary of the War Office Council, who will act as Secretary of the Executive Committee.

7. All important questions will be brought before the Committee in order that combined action may be taken when the subject concerns more than one department.



8. It will be the duty of the representative of each department in which a subject is initiated, or to which a subject has been referred in its initial stages, to state briefly to the committee the steps which his department is about to take, and he will also bring to the notice of the committee any important development which may arise in a matter in which action has commenced. The committee will discuss the course to be pursued, and the representative of each department will be responsible for reporting subsequently to the committee the progress of the action decided on.

9. The Chairman will bring to the notice of the committee any cases in which it appears that there has been delay in connection with the completion of a subject.

10. A record of the proceedings will be kept by the Secretary for submission by the Permanent Under Secretary to the Secretary of State. Copies will be supplied to all departments of the office.

11. The committee will meet in Room 48 in War Office, Pall Mall, on Tuesdays and Fridays at 12 o'clock.

### III.—Special Departmental Committees.

12. The Secretary of the War Office Council and Executive Committee will carry out the necessary arrangements for the formation of special committees approved by the Secretary of State, and will report from time to time to the Permanent Under Secretary of State the progress made by each. Papers containing the reports of committees will be marked, in the first instance, to the Secretary, War Office Council, etc., and will be eventually closed by him.

### IV.

The Secretary of State has appointed Mr. Brade to be Secretary of the War Office Council and Permanent Executive Committee.

### V.—The Army Board.

The constitution and duties of the Army Board will remain as at present, subject to the following alterations, which have been approved by the Secretary of State :—

- a. The Director-General, Army Medical Department, will be a member.
- b. In addition to its present duties, the Board will be charged with the consideration of :—
  1. The annual estimates prepared by heads of departments and the allocation of the sums allotted for military purposes.
  2. The establishments of officers and men of the Regular, Militia, Yeomanry, and Volunteer Forces.
  3. Any important subject which the Commander-in-Chief or the head of a military department may desire to bring forward for discussion.
- c. The Board will meet at such dates as may be fixed by the Commander-in-Chief.

The *London Gazette*, dated 5th November, 1901, contained the following :—

At the Court of St. James's, the 4th day of November, 1901. Present: The King's Most Excellent Majesty in Council.

Whereas it is expedient to define the duties of the principal officers who may hereafter from time to time under the Secretary of State for War be charged with the administration of the departments of the Army ;

Now, therefore, His Majesty, by and with the advice of his Privy Council, is pleased to order, and it is hereby ordered, that subject to such regulations as may be made by the Secretary of State for War, the officers hereinafter named shall be charged with the duties herein assigned to them.

### I.—Duties of the Commander-in-Chief.

The Commander-in-Chief shall exercise general command over His Majesty's Military Forces at home and abroad, shall issue "Army Orders," and hold periodical inspections of the troops.

He shall be the principal adviser of the Secretary of State on all military questions, and shall be charged with the control of the departments of the Adjutant-General, Director-General of Mobilisation and Military Intelligence, and Military Secretary, and the general supervision of the other military departments of the War Office.

He shall be charged with the general distribution of the Army at home and abroad, and with the selection and proposal to the Secretary of State for War of fit and proper persons to be recommended for commissions in the Regular Forces and of fit and proper officers, whether of the Regular or Auxiliary Forces, for promotion, for staff and other military appointments, and for military honours and rewards.

In the absence of the Commander-in-Chief, the senior officer of the Headquarters Staff shall act for him.

*(a) The Adjutant-General's Department.*

The Adjutant-General shall be charged, under the control of the Commander-in-Chief, with the discipline, military education, and training of the officers, warrant officers, non-commissioned officers and men of the Regular and Reserve Forces, Militia, and Yeomanry of the United Kingdom, and of the Volunteer Force of the United Kingdom when subject to military law or when assembled for training, exercise, inspection, or voluntary military duty :

With matters relating to the general efficiency of the Army, and the effective strength of its units :

With the allocation of the troops to their respective duties ;

With patterns of clothing and necessaries, and with the maintenance of returns and statistics connected with the *personnel* of the Army ;

With enlisting men for and discharging men from the Regular and Auxiliary Forces :

With annually submitting proposals to the Commander-in-Chief for the establishments for all the above services.

*(b) The Department of the Director-General of Mobilisation and Military Intelligence.*

The Director-General of Mobilisation and Military Intelligence shall, under the control of the Commander-in-Chief, be charged with the preparation and maintenance of detailed plans for the Military Defence of the Empire and for the organisation and mobilisation of the Regular and Auxiliary Forces ;

With the preparation and maintenance of schemes of offensive and defensive operations ; the collection and distribution of information relating to the military geography, resources, and armed forces of foreign countries, and of the British Colonies and possessions.

*(c) The Military Secretary's Department.*

The Military Secretary shall, under the control of the Commander-in-Chief, deal with appointments, promotions, and retirements of officers of the Regular and Auxiliary Forces, the educational qualifications required from candidates for commissions in the Army, and is charged with the administration of the educational establishments.

*II.—The Quartermaster-General's Department.*

The Quartermaster-General, under the supervision of the Commander-in-Chief, shall be charged with supplying the Army with food, forage, fuel, and light, and quarters, with land and water transport, conveyance of stores, and provision of remounts ; with the movement of troops, and with the distribution of their barrack stores and equipment ; with administering the Army Service Corps, the Pay Department, the Veterinary Department, and the establishments employed on the above Services. He shall submit proposals for the Annual Estimates for the above Services, and shall advise the Secretary of State on all questions connected with the duties of his department. He shall make such inspections as may be necessary to secure the efficiency of the Services under his control.

*III.—Department of the Inspector-General of Fortifications.*

The Inspector-General of Fortifications shall, under the supervision of the Commander-in-Chief, be charged with the selection of sites for barracks, ranges, and manœuvring grounds, with the construction and maintenance of fortifications, barracks, and store buildings, and the inspection of ordnance factory buildings and Engineer stores; with military railways and telegraphs and Engineer stores; with the purchase of land and the custody of War Office lands and unoccupied buildings; with advising as to the design and issue of Royal Engineer and submarine mining stores. He shall submit proposals for the annual estimates for Engineer services, including Engineer stores, and shall advise as to the general distribution of the Corps of Royal Engineers, and as to the appointment of officers to, or their removal from, responsible positions in connection with works. He shall advise on all questions relating to the technical instruction of the Corps of Royal Engineers, and shall make such inspections as may be necessary to test the professional training of the officers and men of the corps, and to secure the efficiency of the Services under his control. He shall advise the Secretary of State on questions connected with the duties of his department.

*IV.—Department of the Director-General of Ordnance.*

The Director-General of Ordnance shall, under the supervision of the Commander-in-Chief, be charged with supplying the Army with warlike stores, except Engineer stores, equipment, and clothing; with the direction of the Ordnance Committee and Manufacturing Departments of the Army; with dealing with questions of armament, of patterns of inventions and designs, and with the inspection of all stores, except Engineer, Medical, and Veterinary stores, whether supplied by the Manufacturing Departments or contractors. He shall administer the Army Ordnance Department and Army Ordnance Corps, and shall make such inspections as may be necessary to secure the efficiency of the Service under his control. He shall submit proposals for the Annual Estimates for the above Services, and shall advise the Secretary of State on questions connected with the duties of his departments.

*V.—Department of the Director-General Army Medical Department.*

The Director-General Army Medical Department shall, under the supervision of the Commander-in-Chief, be charged with the administration of the Medical Establishments of the Army and of the Royal Army Medical Corps, with dealing with sanitary questions relating to the Army, with the preparation of medical and sanitary statistical returns, and with the supply of medical stores to the Army. He shall advise the Secretary of State as to the general distribution of the Royal Army Medical Corps, as to the appointment of officers to, or their removal from, responsible positions therein, and on all other matters connected with his department. He shall make such inspections as may be necessary to ensure the efficiency of the Services under his control, and shall submit proposals for the Annual Estimates for the Medical Services.

*VI.—The Financial Secretary's Department.*

The Financial Secretary shall be charged:—

With financially reviewing the expenditure proposed to be provided in the Annual Estimates for Army Services, and with compiling those Estimates for submission to Parliament;

With financially reviewing any proposals for new expenditure, or for any proposed redistribution of the sums allotted to the different sub-heads of the votes for Army Services;

With seeing that accounts of all expenditure of cash and stores are correctly and punctually rendered; with auditing and allowing all such expenditure, and recording the same under its proper head of Service in the annual account for Parliament; with issuing all warrants for the payment of moneys; with making all imprests to accountants and others;

With the financial control of the Manufacturing Departments of the Army, and with controlling and recording all contracts for Army Services ;

And with advising the Secretary of State on all questions of Army expenditure ;

And His Majesty, by and with the like advice, is further pleased to direct that the Order in Council of the seventh March, one thousand eight hundred and ninety-nine, defining the duties of the principal officers under the Secretary of State for War charged with the administration of the Departments of the Army, be revoked.

And the Right Honourable St. John Brodрик, one of His Majesty's Principal Secretaries of State, is to give the necessary directions herein accordingly.

A. W. FITZROY.

EXTRACT FROM MAJOR-GENERAL DOUGLAS' REPORT ON CYCLIST EXERCISES IN THE ALDERSHOT DISTRICT, 4th TO 9th AUGUST, 1901.

*V. Deductions from the Exercises.*—On many of the points raised there has been a diversity of opinion, but from the practical experience gained during the week I think the following conclusions may be considered as fairly accurate ; further experiment would, however, be advisable before any hard and fast rules were laid down :—

1. *Cohesion.*—With proper training bodies of cyclists larger than a battalion can be handled without great straggling, provided the companies and battalions meet annually for exercise in organised bodies. Even with the force organised hurriedly, companies being made up of men from three or four battalions, the results were fairly satisfactory and beyond my expectations.

2. *Organisation.*—The most workable establishment to adopt would be :—

Company—5 officers, 5 sergeants,<sup>1</sup> 122 rank and file.

Battalion—1 commanding officer, 1 second-in-command, 1 adjutant, 1 quartermaster, 1 sergeant-major, 1 quartermaster-sergeant, 4 companies. This would form a battalion of about 500 strong.

Brigade or Corps—4 battalions, or about 2,000 men, which is the largest body that can be conveniently handled by a commander.

If it is intended to train the cyclists of Volunteer battalions in large bodies in future, it would be of great advantage were the establishment of the cyclist company fixed at the above numbers for the purpose of drawing the grant ; the companies of the four or five battalions of a Volunteer brigade could then form at brigade camps a cyclist battalion, for training. I am aware of the difficulties to this proposal : Volunteer battalions would probably be unable to find 132 cyclists to form a company, and commanding officers use their cyclists at brigade camps in connection with outposts, as orderlies, etc., but the system adopted this year of making up the company from various battalions is unsatisfactory in many ways and does not admit of the unit being trained together, a matter of considerable importance when manœuvred in large bodies. I was much struck on the Monday's preliminary exercises with the difference in the work done by those companies which had been previously trained as companies, and those companies which had been made up of sections drawn from different battalions. This difficulty might be got over by reducing the establishment of a company from 122 rank and file to 102, and increasing the annual grant, or by giving an extra grant to each cyclist taking part in cyclist manœuvres.

Although the establishment of the company recommended is not so high as the war establishment of a squadron or a company of mounted infantry, when in action there would be almost as many rifles in the firing line, as no horse-holders are required for cyclists, merely a small cycle guard.

A cyclist company should be divided into four sections.

3. *Rate of Travel.*—On this point there is considerable diversity of opinion, the majority think 10 miles an hour can be done without fatigue, a minority consider the pace should not exceed 7 to 8 miles. My own opinion is that, under favourable

<sup>1</sup> To include 2 repairers.

circumstances of weather and roads a body of 1,250 cyclists can travel on fairly level country at the rate of from 8 to 9 miles an hour by day, and 6 to 7 miles by night, excluding halts; it was found that any increase or diminution of this pace caused straggling or distressed the men.

The weather was fine, there was no wind, and the roads were good throughout the operations; consequently experience of the rate of travel in adverse circumstances was lost.

To attain a rate of travel of 9 miles an hour regular training is necessary, the sections and companies should be carefully led by their commanders, maintaining an even pace, and preventing any attempt at "scorching" to pick up distance lost; commanders of smaller units do not seem to realise (although it was demonstrated on several occasions) that when distance is lost it will be regained at the first ascent. The principle is the same as for infantry being forbidden to double on the march. Distances were not made sufficiently telescopic, nor did many understand that the distress and exhaustion which occurred on the marches were produced by checks, rapid advances, short and unexpected halts, and uneven pace, which were almost invariably caused by section and company leaders trying to rigidly maintain their distances on the march. The largest unit that should march closed up is the company.

It is essential that the commander should inform those under him of the average rate he proposes to travel.

Commanders of battalions and companies should ride at the head of their commands to regulate the pace, section leaders in rear of their sections to look after their men.

4. *Length of March.*—It has, I think, been proved that a large body of Volunteer cyclists when first called out cannot be expected to march more than 35 miles a day, under favourable conditions of road and weather, for five consecutive days, combined with efficiency. No doubt the length of march could be increased if the men received more training to move in bodies, and as they became more fit with work.

5. *System of Establishing Chain of Command.*—The systems for establishing a chain of command on the march, enumerated in paragraph 6 of the "Instructions," were tried and the following were found most suitable:—

BY DAY.—From front to rear of the column.—For brigade and battalion commands; by flag signal (a flag for each officer and section commander), preceded by a whistle to attract attention. For captains to their own companies; by signals with the arm. Flags of battalion commanders might with advantage be of different colour to those used by company commanders. The signals enumerated in paragraph 6 of the "Instructions" worked well. The flag was fixed to the handle bar by means of a clip; a more convenient way would be to attach the flag perpendicularly to the front fork close to the handle bar.

The signals for "Form Files" and "Form Single File" are unnecessary, the rear should conform. Men should be instructed to conform to any change of formation, etc., made in front.

Commands which are not enumerated and which cannot be signalled must be conveyed by orderly.

From rear to front.—Great difficulty was experienced in passing up orders issued in rear. Three methods were tried: (a) by fast-riding orderly—time occupied, 35 minutes; (b) by word of mouth and fast-riding orderlies between battalions; out of four attempts only one message reached the head of the column—time occupied, 50 minutes; words of command passed by mouth are very unreliable; (c) by motor—time occupied, 20 minutes; motor-cars passing up a column on the march distress the men. A motor-bicycle would probably be a satisfactory method.

Men in the ranks should be forbidden to repeat signals or words of command, as it creates confusion.

For advanced and rear guards.—By word of mouth passed through the connecting files.

BY NIGHT.—By orderlies only.

6. *Communication between Two Bodies Moving on Parallel Roads.*—Two methods were tried (a) by establishing communicating posts, previously fixed on in the march orders (see paragraph 9 of the "Instructions"), midway between the parallel moving bodies; (b) by motor-car. Neither experiment proved quite satisfactory. The fast riding orderlies detailed to form the communication posts, took so long to catch up the columns, that the information would probably have been of little value; in many cases the orderlies lost their way.

The system of establishing connection by means of posts would only answer at fixed halting places, if the cross roads were favourable, if the halting places of the parallel columns were previously fixed in the march orders, and if the posts were sent out to a rendezvous somewhat in advance of the spot they leave the columns. This was tried in one instance on 7th August and was successful.

Motor-cars and motor-bicycles would be the best means if they were reliable; the former is better and quicker than the latter, and need not be stopped to read the map.

7. *Orderlies.*—Orderlies sent to communicating posts should be in pairs, in case of a breakdown. They should be despatched from the advanced guard, and should be in possession of maps.

When an orderly has delivered a message from front to rear of the column, he should not attempt to rejoin his commander until the column halts. This applies to all men falling out; a series of men racing along a column is dangerous. Orderlies with orders for the rear, should as a rule, wait dismounted instead of riding back.

Battalion commanders should be accompanied by four fast-riding orderlies.

8. *Recovering and Regaining Cycles in Action.*—It is impossible to lay down hard and fast rules as to how far from their cycles cyclists can be expected to act as effective infantry; much would depend on the circumstances of the moment. Experiments were made on 7th and 9th August, and the results were satisfactory; there was no confusion.

The principles laid down in paragraph 12 of the "Instructions" appeared to be sound. With large bodies, cycles in attack should not be brought beyond the point whence it is intended to deliver the attack, in defence they should be placed in a position whence they can be mounted under cover. The provisions of Section 35, Cyclist Drill, are impracticable and misleading. Small bodies, such as patrols, would probably be able to retain their cycles in nearer proximity to the enemy. It should be impressed on all cyclists that the machine is only intended to convey the infantryman to a point from which he must act on foot. Pursuit could probably only be taken up by fresh troops standing by their cycles and ready to move. A guard should always be placed over stacked cycles.

9. *Are Cycles a Handicap to Infantry in case of Sudden Emergency?*—I had arranged on the 8th, to lay an ambush for the attacking force whilst on the march in pursuit of the defending force, but as the morning's work was cancelled this was not carried out. This is an important point, and it is regretted that it could not be tested. From what I have seen, I think that cyclists moving on a road in close country would be practically at the mercy of troops carefully ambushed, and great confusion would arise before the column could be reversed and retire; it is therefore a matter for consideration, how near it would be safe for a body of cyclists in close country to approach an enemy.

10. *Night Marches.*—Cohesion was fairly well maintained between units on the 9th; with practice, cohesion can be ensured. Night marches should only be attempted on bright moonlight nights, and at such distance from an enemy as will ensure the march not being interrupted. The greatest confusion would result from an ambush, or even an alarm would probably throw the column into disorder.

Silence must be impressed on the Volunteers, and words of command should only be conveyed by orderlies.

Lamps should not be carried, and are unnecessary on moonlight nights, except by the rearmost file of each section, company, and battalion, and by connecting files



These lamps should be attached to the rear fork of the cycle; red or green are recommended, as they do not dazzle the man in rear. A piece of luminous paper attached to the back of the saddle of each cycle would probably be very useful.

**11. Straggling.**—Straggling is due to (a) the head of a unit mounting and moving at too great speed before the whole of the unit has mounted; (b) not giving full effect to the telescopic principle on the march; (c) company and battalion commanders not maintaining an even pace and in endeavouring to hurry when they, in consequence of undulations in the road, find they have lost distance from the unit in front of them; (d) too rapid a rate of travel.

Mounting should be by files in succession. The suggestion in paragraph 3 (b) did not work well; each file should mount as it reaches the top of a hill and move down the hill at the ordinary pace, going slow on the level until the column is collected.

**12. Distances.**—The distances laid down in paragraph 4 of the "Instructions" worked well, except that 100 yards should be allowed between companies; this would save fatigue and would not materially lengthen the column.

As already stated (Section IV., Monday's work) the distance between files should be increased to two cycle lengths.

For night marches the distances laid down in paragraph 15 of the "Instructions" are satisfactory, except that connecting files might be 30 yards apart.

Connecting files (single cyclists) between the different parties of the advanced guard and between battalions should, by day, be 50 yards. Ten or twelve men, to act as additional connecting files when the battalion in front draws away, should accompany the commander of each battalion; as the battalion regains its distances these men should join their commanding officer.

An alternative proposal has been suggested, to do away with connecting files in advanced guards and drop men at all branch roads; I doubt whether this would be practicable, it would result in great wastage and there would be no means of keeping up communication between the advanced guard and main body.

**13. Halts.**—The suggestions in paragraph 8 of the "Instructions" require modification. The first halt should be for 15 minutes, three-quarters of an hour after the head of the column has started; and for 10 minutes every subsequent hour and a half. A more satisfactory way would probably be to fix and publish in the march orders certain places where halts will be made, as this would facilitate communication with lateral columns and flank guards.

At all halts, files, sections, companies, and battalions should close up to the units in front, to prevent straggling when the march is resumed, which would otherwise occur when mounting. Similarly, in ascending hills distances should be decreased.

At each halt word should be sent down the columns as to the duration of the halt.

**14. Order of March.**—The provisions of paragraph 10 of the "Instructions" are particularly important in the case of a Cyclist Corps, as the march is much more trying to units in rear. The order of march should, if possible, be changed at the half-way halt.

**15. Advanced Guards.**—Much training is required to teach the different portions of the advanced guard to maintain their relative distances and positions on the march, and to ensure the connecting files keeping up communication with the rear. On every march the advanced guard started at a racing speed, and frequently during the march the whole guard had amalgamated into one body.

The commander of the leading battalion should inform the commander of the advanced guard the average rate of march.

**16. Commander.**—Three motor-cars should be placed at the disposal of the commander of a large body of cyclists, one for himself and a staff officer, one for his A.D.C., and one for communicating purposes and sending orders and messages.

**17. Cycles.**—The Volunteers brought with them every variety and description of cycle. Many of them were inexpensive and fragile machines. Several men brought hired cycles, as they were afraid of their own being damaged. It is worthy of

consideration whether the present grant is sufficient to induce men with serviceable machines to join cyclist companies.

The percentage of broken machines during the week was 14·2; of these 6·8 per cent. rejoined the column after repair or on the following day. About 75 per cent. of the break-down cases were due to punctures, of which 60 per cent. would be avoided by the use of tandem tyres. The large number of punctures and breakdowns were due to (a) bad and old tyres, (b) racing tyres, (c) cheap machines, (d) hired machines. The cushion tyre is simpler, less liable to injury, but admits of less speed and less comfort to the rider; the racing tyre is quite unsuitable. Machines should be inspected every evening, and the tyres washed to remove grit, which if left will cause a puncture the next day. The cycles of good make and in good condition stood the work well; the best are stated to be made up from B.S.A. fittings. The bicycle "G.S. Mark I." is excellent.

Highly-gearred machines should not be allowed, as the riders always fall back ascending an incline, and forge ahead on the level. Cycles for military purposes should be geared at 68 to 72. A few highly-gearred machines for orderlies would be useful.

Brakes are absolutely necessary, and every cycle should have two, rim on hind wheel and rim on plunger or front wheel; 10 per cent of the machines had no brakes.

A prop is a very useful adjunct to the cycle; when stacked they are apt to be blown down and damaged.

Straight handles are strongly recommended.

There is no great objection to the free wheel, provided powerful brakes are used.

18. *Rifle Attachment.*—There is a great variety in the way rifles are carried on the cycle; the methods most generally adopted are (a) vertically, in a bucket, in front of the handle bar; the objection to this is the weight thrown on the front wheel, and it might be dangerous if the rider were thrown forward, the bucket also adds weight to the machine, but it has the advantage of keeping the rifle clean and dry; (b) Parallel along the upper backbone; the strong objection to this is that it rubs the rider's leg and causes him to ride with a bent knee, and the front wheel throws the dust down the barrel; (c) The Government pattern (see 1st page of Cyclist Drill) seems to be on the whole the best method, but it is open to the following objections: the weight of the rifle is mostly on the front wheel, slowness in attaching and detaching rifles, dust gets into the barrel unless the sight protector is kept on the muzzle. Some advocate the muzzle of the rifle being put over instead of under the handle bar.

19. *Labels.*—Labels, to enable a man to find his cycle, are absolutely necessary. A metal or leather slip should be attached to the cycle below the top stay in which a card, showing the battalion, company, and man's number can be put, thus :  

No. 1, A.,
153.

20. *Repairs.*—Two repairers per battalion accompanied the corps on cycles on the march; these were insufficient: there should not be less than two per company, and they should ride on tandems, or, preferably, in motors or on motor bicycles. The work of catching up the column was very severe and completely exhausted the men. Repairers should wear a special badge.

21. *Ammunition Supply.*—The experiment of carrying 200 rounds of ball ammunition on the man was tried. The ammunition was carried in two bandoliers, one round the waist and one over the shoulder. Some men felt no distress, others complained of the weight; I am inclined to think that Volunteers who are not fit for hard work when they first take the field would feel the weight; 150 rounds could be carried on the person. I believe 200 rounds a man could be carried by wearing one belt and attaching the other to the cycle—to be removed and worn when the man leaves his cycle. The reserve ammunition should be carried in motors, which would remain with the stacked cycles.

22. *Signalling Lamps.*—With reference to W.O. letter, 54/Gen. No./8454 (A.G. 4), dated 12th August, 1901, I am of opinion that if cyclists are to work as independent bodies, the cycling signalling lamp is necessary for outpost work, in the same way that

signalling lamps are required by other branches. One per company should be provided; the allowance of four per battalion laid down for infantry was found to be insufficient in South Africa. This lamp can be read up to a distance of 5 miles.

23. *Equipment.*—Waterproof, tool bag, rifle, and ammunition only should be carried on the cycle. Kit bags, blankets, etc., should be conveyed by motor-cars. Some men carried great-coats, which they stated they could ride in. I think they would have been very much hampered had they used them; others carried cloth capes. Waterproof capes should be adopted.

24. *Stretcher Bearers.*—There should be cyclist stretcher bearers with each battalion.

25. *Motor-Cars.*—Three motor-cars were provided by the Automobile Club for my use; the owners drove their own motors. I am much indebted to them for the assistance they afforded me. There were a good many breakdowns; on the 7th all three motor-cars broke down, and two of them could not be repaired until the following day. The car used by myself belonged to the Hon. C. Rolls, and was too large and powerful for the purpose; he stated that it was in bad order when it arrived, and constant stopping and going slow tended to put the machinery out of gear. None of the cars used were quite suitable for the purpose they were put to.

Mr. Mayhew has kindly given me, from experience gained during the operations the following description of an automobile suitable for work with cyclists:—

The requirements are (a) lightness, (b) strength, (c) reliability, (d) sufficiency of power, (e) easy to start and stop, (f) capable of moving slowly, (g) narrow, (h) easy to steer and turn in narrow roads.

To meet these requirements, vehicles fitted with engines driven with petroleum spirit should be adopted. Electric and steam cars are unsuitable. In strength and lightness the cars of French make are immeasurably superior to those of any other manufacture. To ensure reliability in working there should be two methods of ignition, i.e., by electric ignition and also by tube ignition. The engine should contain two cylinders. The engines should not be less than 5-H.P.; 7 is recommended. Steering should be that of the wheel and worm pattern. The machines produced by Messrs. Panhard, Levassor, of Paris, and Regent Street, London, are considered the best. The *voiture légère* of 7-H.P. used by Mr. Mayhew during the Cavalry Manœuvres and Cyclist Exercises never stopped or gave the slightest trouble.

26. *Maps.*—The maps issued, viz., "Reduced Ordnance Survey, scale 2 miles to an inch," were excellent.

27. *Guides.*—The value of local cyclist guides is beyond doubt. During the exercises I used Staff College officers who knew the country, and they were most useful. On one occasion, the officer leading the advanced guard did not know the road, the result was that the advance was constantly checked whilst he halted to consult his map; constant halts are very tiring to a cyclist column. To lead cyclists rapidly and prevent check, a local cyclist guide who knows the country and the best roads for cycling is invaluable.

28. *Training.*—Many of the difficulties which have been referred to would be overcome with proper systematic annual training by companies and battalions. Many of the men who took part in the exercises had only joined the cyclist companies and sections of their battalions lately, and had received no training as organised bodies; this is necessary if they are to be manœuvred in large bodies.

Too much attention cannot be given by company and section commanders to instruction in slow riding, mounting, reversing cycles when in file, and they themselves require practice in maintaining an even rate of travel and in keeping their commands together.

It is for consideration whether a Volunteer cyclist officer should not be appointed in each district to examine and give instruction to cyclists.

The Cyclist Drill might with advantage be revised, and some of the sections, which appear to be unnecessary, omitted.

*VI. Conclusion.*—To sum up: Judging from results, I am inclined to think that with training it is possible to employ with advantage cyclist troops in large bodies in this country. The experiments have not been exhaustive, especially as the weather and roads were most favourable; nor did time permit to thoroughly test what would become of the cycles when the men assumed the rôle of infantrymen in the fight, or whether cycles would be a handicap to infantry in case of sudden emergency. I am of opinion, however, that the results have been so far favourable, and that more extended operations with opposing forces starting at a considerable distance apart are worth a trial. I think it must be recognised that in large offensive operations the cycle should be considered as having done its work when it has conveyed the infantryman to the most advantageous point from which to deliver his attack, and that we must be prepared on certain occasions of emergency to run the risk of losing the machines, or, at all events, to abandon them until they can be recovered.

In conclusion, I beg to place on record my appreciation of the zeal and energy displayed by the officers, and the cheerful obedience and co-operation on the part of the men throughout the operations. All did their best to assist in solving the problems set for consideration. My thanks are due to my staff and the Staff College officers for the valuable assistance they rendered me.

*UNITED STATES.*—*New 5-inch Segmental Wire-Wound Gun for the United States Army.*—If one were asked to name the particular implement of war which is called upon to do the hardest work and endure the heaviest and most destructive stresses, he would not be very far wrong if he selected the modern breech-loading rifle. There is certainly no product of the forge and the machine-shop that is subjected to such extreme care, both in the selection of the raw materials and in the various details of its fabrication, as is bestowed on the high-powered rifle of to-day. Broadly speaking, the problem in gun manufacture is to secure the highest qualities of strength and endurance for a minimum weight of material. It is a well-known fact that the strength and lasting qualities of steel are directly proportional—other things being equal—to the amount of working to which it is subjected during manufacture; and, since the work that can be put into the steel is inversely proportional to its bulk, it follows that, in the manufacture of ordnance, the smaller the section of the elements of which the gun is built up, the greater will be the tensile and elastic qualities of the finished piece.

If the above proposition be true, it will be substantiated by the history of modern ordnance; and a brief review of the subject shows that with the increase in the strength of guns there has been an increase in the number of parts of which they were built up, and a decrease in the sectional area of these parts themselves. The cast-iron gun of the era of the Civil War was formed in one piece, and the best that it could do was to show a muzzle velocity of 1,500 feet per second. A single reinforcing hoop was then shrunk over the breech of the gun, and its effect was seen in an increase in the ratio of power to weight. This improvement opened up the way for the "built-up" guns which consist of a large number of separate elements, each of which is carefully worked, annealed, and oil-tempered, in the effort to produce the highest possible results in elasticity and ultimate strength. Coupled with these qualities is the advantage that, in a gun consisting of many separate sections, the possibility of unseen flaws in the metal is reduced and the reliability of the piece is also proportionately increased.

In addition to these advantages, the metal in the finished built-up gun is thrown into a condition of initial strain which eminently prepares it for meeting the enormous stresses imposed at the moment of firing. The built-up gun consists of an inner tube, containing the bore with its rifling, and a number of superimposed hoops, which are turned to a carefully calculated diameter, less than that of the tube, and then enlarged by heating and shrunk on. The great tensile strain resulting from the shrinkage of the hoops throws the metal of the inner tube into a state of initial compression. The result of this is that the shock of discharge is felt throughout the whole body of the gun from bore to circumference, and every particle of the metal does its share of useful work. The system of built-up construction has undoubtedly been brought to a high stage of excellence, as shown by the fact that modern built-up guns secure a muzzle

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velocity of 3,000 feet per second with a maximum chamber pressure of 17 tons to the square inch.

The method of securing the desired initial compression of the metal at the bore of the gun by shrinking on steel hoops is open to the objections that it is exceedingly expensive, the best guns costing \$1,000 per ton weight of gun, and that it is not possible to determine with absolute certainty just how much initial strain exists in the gun after shrinkage. Moreover, in spite of the great care exercised in manufacturing the tube and hoops, these parts are sufficiently large to contain unsuspected defects which cannot be detected even by the most careful examination.

With a view to remedying these defects, the system of wire-wound gun construction was introduced, the credit for its inception being due to Mr. Longridge, in England, and the credit for its development and commercial introduction being due to the well-known Armstrong firm. In this system the gun consists of an inner tube about which is wound a ribbon of steel, the accumulated tension of the winding being calculated to produce the desired initial compression at the bore. Over the wire-winding is shrunk on a series of jackets as in the hooped gun. The system may be described as a compromise between the hooped gun and the fully developed wire-tube gun, which is represented by the piece which forms the subject of our accompanying illustrations.

In the Brown segmental wire-tube gun we have the highest possible development of the wire-wound system. Judged by the ballistic results achieved at the Government proving grounds, it is—weight for weight—by far the most efficient weapon in the world, and there is now under construction a 4½-inch gun, which, if it passes satisfactorily its proving test, will be so far in advance of any existing ordnance as to be positively in a class by itself. In the *Scientific American* for 28th November, 1896, we published a description of the Brown system as applied in the 10-inch rifle which has lately been completed for the United States Government. The piece consists of a thin liner which forms the bore, a segmental tube wound with wire, and a jacket. The segmental tube consists of a large number of thin, tapered plates of steel which are assembled and clamped together, and are then wound with wire under a constant tension. The assembled segments form a kind of arch to sustain the accumulated compressive effect of the winding; and, owing to the fact that they are cold-rolled to their finished size, it is possible to secure in them a far higher quality, both as to homogeneity and compressive strength, than is possible in the inner or A-tube of an ordinary built-up gun. The cheapness of manufacture, furthermore, enables them to be produced at a cost below that of the tube. This 10-inch gun was planned in the early days of smokeless powder, and was designed for powder containing 66½ per cent. of nitro-glycerine. In its recent Government test, when it was fired with a 35 per cent. nitro-glycerine powder, it was found that the chamber was not large enough to contain as much of the new explosive as was necessary to give a muzzle velocity of 2,800 feet per second. The chamber has now been enlarged to the required dimensions, and, judging from the results already achieved, when the gun gave its 575-lb. shell a velocity of 2,503 feet per second, it is fully expected that the desired velocity of 2,800 feet per second will be obtained. The piece will then equal in velocity the Navy 10-inch gun; but, as the shell fired from the Brown gun is 75 lbs. heavier than the Navy shell, and of the two guns the Brown is 7·4 tons lighter, the resultant muzzle energy and the foot-tons of muzzle energy per ton weight of gun will be considerably greater, as is evident from the table below:—

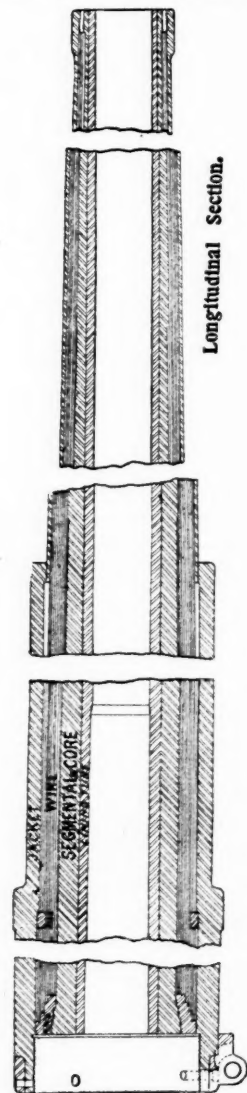
	Length in Feet.	Weight in Tons.	Weight of Shell in Pounds.	Muzzle Energy in Foot-Tons.	Foot-Tons of Energy per Ton Weight of Gun.
Brown segmental wire-tube gun ... ..	37½	26·0	575	31,298	1,204
Navy gun ... ..	37½	33·4	500	27,216	815

The preceding table tells its own story, and to anyone who has followed the development of modern ordnance and is familiar with the best that has been done, it will be seen that the development of 1,204 foot-tons of energy per ton weight of gun has never

been approached, the nearest to it being that of the Krupp 50-calibre 12-inch gun, which develops 948 foot-tons per ton weight of gun.

Since the design of the first 5-inch gun was brought out, Mr. Brown has developed an important improvement by substituting for the straight segments, as used in that gun, a series of overlaid curved steel plates, as shown in our illustrations. The plates are formed from sheet steel, varying in thickness from 1.7 to 0.4 inches, which is cut to the desired taper, and rolled in a special mill to the involute form shown in one of the accompanying illustrations. The substitution of these involutes for the longitudinal segments is a logical step along the line of development which is being carried out so successfully in this gun. The substitution of straight segments for the inner tube of the accepted type of gun was made, as we have seen, with a view to securing more thorough working and higher quality in the steel. The thinness of the curved sheets and the thorough working and subsequent inspection to which they were subjected, insure a yet more perfect condition of the core.

The following description of the process of manufacture applies to a 5-inch gun which was built as a type piece and subjected to trials at Sandy Hook. The report of these firing trials, as made by the officer in charge, certainly does not betray any partiality for the gun, and, therefore, particular value attaches to the fact that the results of the trials, as gathered from the report, prove that the gun has not merely achieved, but has considerably exceeded, the contract requirements. Unfortunately, it was mounted upon a carriage designed for guns of far less power, and it was impossible to carry the velocity to as high a figure as the gun was capable of securing, owing to the risk of injuring the carriage. The insufficiency of the carriage was foreseen and inevitable, and it in no way reflects upon the capabilities of the piece. In the construction of the segmental core, sheets of steel one-seventh of an inch thick, 30 inches wide and 19 feet long are cut into two pieces along a diagonal line, the resulting halves being each 24 inches wide on one end, 6 inches on the other, and 19 feet in length. One edge of the plates is planed to a curved bevel fitting the curvature of the outside of the lining tube, and each piece is bent in special rollers to the involute form shown in the accompanying illustration. Eighteen of these curved plates are superimposed on each other and assembled into the annular circular form shown in the illustration. They then are



fastened by screw-bolts to two rings, one at the breech, and the other at the muzzle. Then more clamps are applied to the assembled segments, and a tapered lining-tube, rough bored to 4 inches internal diameter, is forced by hydraulic pressure into

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the segments. More clamps are then added, one at every 4 inches of length. The lining-tube is then pressed home to its final position under a hydraulic pressure of about 50,000 tons. The structure is placed in a lathe and the outside of the segments is turned to a cylinder stepped with shallow shoulders at eight different points. The structure is then placed in another lathe, fitted with a gear for winding on the wire at a specified tension of 2,600 lbs. per wire, or about 128,000 lbs. per square inch. The end of the first wire is fastened by a plug into a hole in the first shoulder and is wound from there to the breech and back again to the shoulder, where it is fastened by plugging. The same process is repeated at each shoulder, the winding being carried to the breech ring and back to the shoulder from which it started. After the desired number of windings have been put on, the chase jacket is forced on with hydraulic pressure and a threaded muzzle cap is screwed into place. The trunnion jacket is then shrunk on, the liner is bored and rifled, and the breech mechanism fitted, leaving the gun ready for mounting.

We have before us a report by Professor J. B. Denton, of Stevens Institute of Technology, of a mathematical analysis of the stresses of the 5-inch gun. From the summarised conclusions we quote the following :—

- "1. By means of the tension due to the wire windings all parts of the segmental core or tube will be bound together with sufficient pressure to cause the frictional adhesion between its curved lines of division to exceed the shearing forces which would be transmitted along these lines in a forged tube of the same thickness, when fired with powder developing the highest current pressures.
- "2. The metal of the segmental core, by virtue of the magnitude of its frictional adhesion, is as available as a source of longitudinal strength and transverse stiffness as the same thickness of solid steel.
- "3. The division of the core into parts gives it an advantage over the same thickness of solid metal; in that a crack or incipient rupture at any point will not depreciate its usefulness; whereas a flaw in the solid metal may induce rupture.
- "4. The distribution of the wire windings secured a practically uniform compressive resistance in the firing tube, throughout its length, and without exceeding 90 per cent. of the elastic strength of the tightest wire, the lining tube was probably compressed so that, with 50,000 lbs. per square inch of powder pressure, it was not required to exert a tensile resistance."

With this testimony of Professor Denton to the longitudinal and tangential strength of the assembled "segmental core" before us, it is interesting to note that the cost of the segmental tube would be materially reduced. Moreover, to the above undoubted advantages is to be added another of scarcely less importance, namely, that whereas the manufacture of hooped guns can be carried out at only four establishments in this country, the manufacture of this type of gun is so simple that it could be carried on in any machine-shop where there is a crane to handle it and a lathe of sufficient length to turn it; which means that there are at least a half-hundred shops in the United States that could safely contract for the construction of a number of these weapons.—*Scientific American*.

## CORRESPONDENCE.

### STRONG *versus* WEAK COMPANIES.

To the Editor of the JOURNAL OF THE ROYAL UNITED SERVICE INSTITUTION.

SIR,—The fact that the general public is taking a great and ever-increasing interest in all questions connected with the military forces of the Empire, and that re-organisation, increase, and improvement of the Army are in the air, must be my excuse for this letter. Speaking broadly, the weak company may be called the British system, and the strong company the foreign, or Prussian system, as nearly all foreign Powers have based their organisations on that of the Prussian Army.

As I am about to advocate the adoption of a strong company of some 200 to 250 men—that is, the Prussian system—I will begin by saying that I do not think we need fear the reproach of “blindly” following Prussian customs if we assimilate the formation of a British battalion to that of a Prussian one. Might not the advocates of the large company urge, with equal truth, that those who hold the contrary opinion are “blindly” clinging to old British prejudices? The strong company, as said above, had its origin in the Prussian Army, and may have been, in the first place, the result mainly of economical considerations; but it would assuredly not have been maintained in the German Army had not German officers had constant proof of the great advantages arising from it. German military critics have found many faults in their military institutions, but I do not think any of them find fault with their strong company system; on the contrary, they appear to consider it, as it really appears to be, one of the principal reasons of their military forwardness.

On the other hand, we say that in the British Army, thanks to our small companies, we get more officers per 1,000 than the foreigner with his big company. But I do not propose to reduce the number of officers, as I well know that the more officers the better. For seeing that, as soon as a campaign is started, regiments are indented on for officers for every sort of duty—few battalions in South Africa had more than twelve officers per battalion after being six months in the field—I would suggest: 1 commanding officer (lieut.-colonel), 1 second in command (major), 1 adjutant (captain), as now, with 4 companies commanded by majors, all to be mounted, 6 captains, 6 lieutenants, and 8 second lieutenants; total, 24 company officers—or the same as at present. As for the majors, or company commanders, I submit that four, trained as they should be and might be with strong companies, would be worth more than eight occupying the low position which the company commander does now.

The Indian military authorities have introduced what is called the double company system into the Native Army, by which two companies are grouped together under one British officer, who has, or may have (theoretically he always has, practically he never has) another British officer, called a double company officer, as an assistant. This is practically the foreign strong company system, and is a great advance on the wing system, which made the unit of command too large; as for all intents and purposes the commanding officer must look to the British officer's command as his unit, and not to the company commanded by a Native officer. For a British battalion the wing system is even more pernicious, as the wing commanders are *de trop* in peace and war; their units are too big, and they spoil the intelligent initiative of the company commander, who ought to command from 200 to 250 men. As far as British battalions are concerned, a double company system is radically wrong, it being a compromise

between the two systems and, like all compromises, doomed to failure. The senior of the two company commanders only taking command on parade has no real authority or influence over the other company, for which another officer is responsible; and, as the company is the unit for organisation purposes, the double company may be split up, and a company detached. Result: the same old weak company.

In practice on the Continent the four large companies seem to have stood the test of peace and war, and all European Powers still hold to them, and the theoretical arguments in their favour seem to me conclusive.

It is of the utmost importance that as many officers as possible should be trained and competent to command. With strong companies you can insure the proper amount of training, and the proper degree of inter-communication between officers and men of the same company, both on parade, in the field, and in quarters. With weak companies on their peace establishment (and the more you have in a battalion the weaker they must needs be) you have not the means either of making a reality of the section system—that most important part of regimental organisation—or of enabling company officers to exercise their own companies as they should do. You can rarely get together sufficient men of *one* company for an ordinary drill. This is very damaging both to officers and men, and it is unnecessary to enlarge on this point, as the evils arising from small companies in this respect are obvious to every soldier.

Large companies are, I think, indispensable as means of education; as really useful instruction can only be given at company drills, at least such instruction is the indispensable preparation for all other; and this supplies to me the strongest argument in their favour. After a company has been thoroughly drilled it should be put through its battle exercises in all situations before it is worked in battalions. This cannot be done with the present weak companies of British infantry. At the same time I hold that, tactically, the strong company adds much to the efficiency of infantry in war when officers and men have had the proper training which large companies alone can ensure. Can British captains with their skeleton companies ever have the power of practising really useful exercise? Moreover, the large company is directly essential both to proper military training and to tactical efficiency, indirectly to discipline, the foundation of all military success, as the large company will alone give the company commander the importance and prestige upon which his influence so much depends. Possibly the company of 250 men may be too strong, but it must be remembered that at least 10 per cent. must always be deducted for ordinary casualties, even before the first serious action.

A little knowledge is a dangerous thing. Follow what system of tactics you like, the force of circumstances has, under the present conditions of war, brought company commanders much more into the foreground than heretofore. If they only have "the little knowledge," they will be apt to use their opportunities to emancipate themselves from all control in action; whereas, if thoroughly trained in peace-time, they will understand the necessity of intelligent subordination. It is now admitted on all sides that a much higher degree of professional education is required in the company commander than heretofore, and it will be much easier to find four men per battalion who attain the necessary standard of capability than eight. Again, the stronger the company the less will be the intermixture of units; the less command in the first line is sub-divided within the limits of proper sub-division the better. For this reason, amongst others, I would rather attack with four strong companies than with eight of half their size.

The great power of modern guns and rifles has rendered an early and wide extension of the attacking troops a necessity; and, at any rate in the initial stages of the attack, a company as well as lateral extension will have considerable depth. It is therefore of great importance that the company commander should be able to move rapidly about his command until the attack has approached the zone of aimed infantry fire. He must therefore be mounted, and, with an infantry battalion, surely four mounted officers besides the battalion staff are enough; whereas, logically, with eight companies there should be eight mounted officers.

Finally, owing to the wide extension of a modern attacking force, the tendency of all tactics is to distribute units in depth rather than in width, so that the commander can exercise his control up till the latest possible moment. With a strong company, the commander can furnish firing line supports and reserve, and so ensure his unit being more or less under his control until all the lines of the first line are merged in the firing line.

J. M. HOME,  
Captain, 2nd Goorkhas.

## NAVAL AND MILITARY CALENDAR.

OCTOBER, 1901.

- |      |        |  |
|------|--------|--|
| 1st  | (T.)   | H.M.S. "Brilliant" commissioned at Portsmouth for Training Squadron.   |
| "    | "      | Launch of the torpedo-boat destroyer "Shirakumo" from Thornycroft's Yard at Chiswick for Japanese Government.  |
| "    | "      | Lord Kitchener reported that the British casualties at the engagement at Fort Itala, on the Zululand border, on 26th September, amounted to 118. The Boer losses amounted to about 250 killed and 300 wounded. |
| 3rd  | (Th.)  | Abdur Rahman, the Ameer of Afghanistan, died, and his son Habibullah was proclaimed Ameer in his stead.  |
| 7th  | (M.)   | H.M.S. "Empress of India" arrived at Plymouth from the Mediterranean.  |
| 8th  | (T.)   | H.M.S. "Cressy" left Portsmouth for China.   |
| 9th  | (W.)   | Martial Law was extended to Cape Town and the other principal parts of the Colony.   |
| 10th | (Th.)  | Commandant General Botha crossed the Pivaan River in his retreat.  |
| 11th | (F.)   | H.M.S. "Resolution" paid off at Portsmouth.  |
| "    | "      | T.R.H. the Duke and Duchess of Cornwall and York reviewed 10,000 Volunteers at Toronto and distributed South African war medals.   |
| "    | "      | Lotter, the rebel leader, was sentenced to death.  |
| "    | "      | Commandant Scheepers was captured by the 10th Hussars.   |
| 12th | (S.)   | H.M.S. "Empress of India" paid off at Devonport.   |
| "    | "      | H.M.S. "Howe" paid off at Devonport.   |
| "    | "      | H.M.S. "Formidable" commissioned at Portsmouth.  |
| 16th | (W.)   | H.M.S. "Fox" left Portsmouth for East Indies.  |
| "    | "      | H.M. the King presented South African medals to a detachment of the Argyll and Sutherland Highlanders at Balmoral.   |
| 21st | (M.)   | H.M.S. "Amphitrite" arrived at Portsmouth with relieved crew of "Illustrious" from the Mediterranean.  |
| 24th | (Th.)  | Lord Kitchener announced that the two 15-pounders lost by Major Gough, who was ambushed at Scheeper's Nek on 17th September, had been recovered.   |
| "    | "      | A desperate attack made by Delarey and Kemp on a British convoy near the Great Marico River was repulsed with severe loss on both sides. The enemy captured 8 wagons.  |
| "    | "      | Commandant General Botha narrowly escaped capture at Schemmelhoek, to the east of Ermelo, and important papers of his were found.  |
| 25th | (F.)   | H.R.H. Princess Henry of Battenberg presented colours to the 3rd Bn. Northumberland Fusiliers at Parkhurst, Isle of Wight.   |
| 26th | (Sat.) | Launch of first-class armoured cruiser "Léon Gambetta" from the Dockyard at Brest for French Navy.   |
| "    | "      | Field Cornet Hans Botha and Captain Coetzee were captured by the British.  |
| 27th | (S.)   | The British surprised and captured 3 Boer laagers.   |

- 28th (M.) Launch of first-class armoured cruiser "King Alfred" from Messrs. Vickers's Yard at Barrow.  
 " " Colonels Benson and Dawkins captured over 100 Boers.  
 29th (T.) H.M.S. "Formidable" left for the Mediterranean.  
 30th (W.) Colonels Byng and Williams captured two laagers and 76 prisoners.  
 31st (Th.) Colonel Kekewich's column captured a Boer laager and 73 prisoners near Rustenburg.

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*Addendum to September Calendar.*

- 20th (F.) Launch of third-class cruiser "Cleveland" from the Bath Iron Works for U.S. Navy.
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## FOREIGN PERIODICALS.

## NAVAL.

ARGENTINE REPUBLIC.—*Boletín del Centro Naval*. Buenos Aires: September, 1901.—"Servomotors" (*continued*). "Rapidity of Fire with Artillery." "Specialists on board Ships in Mediæval Times, the Present, and the Future." "Type of Armoured Vessels for Battle-ships and Cruisers." "The English Naval Manœuvres of 1900." "Foreign Naval Notes."

AUSTRIA-HUNGARY.—*Mittheilungen aus dem Gebiete des Seewesens*. No. 11. Pola: November, 1901.—"Contributions to Cosmogony." "Observations on the Visibility of Lighthouses." "The Co-operation of the Fleet and Army in Admiral Farragut's Operations." "Foreign Naval Notes."

BRAZIL.—*Revista Marítima Brasileira*. Rio de Janeiro: August, 1901.—"For the Brazilian Naval League." "The Brazilian Naval League." "The Naval School." "The Steering of Balloons." "The Application of Physico-Chemistry to the Navy." "New Obturators for the Guns of the 'Richaello.'" "On the Advantages of Establishing a Cabinet of Radioscopy in Naval Hospitals." "A Lesson of Naval Tactics." "The Range of Modern Guns." "On the New Pieso Naval Velocimeter." "New Brazilian Submarine Boat." "Foreign Naval Notes."

FRANCE.—*Revue Maritime*. Paris: September, 1901.—"The Comte d'Orvilliers, Lieut.-General of the Fleet, and his Chief of Staff, Captain the Chevalier du Pavillon, during the Operations of 1778 and 1779." "A Comparative Study of the Armoured Cruisers 'Léon Gambetta' (French) and the 'Drake' (English). "Chronicle of Lorient from 1792 to 1800." "The English Fleet of To-day and its Development during the Last Century." "Foreign Naval Notes."

*Le Yacht*. Paris: 5th September, 1901.—"The Organisation of the 'Défenses Mobiles.'" "Yachting Notes." "Across the Channel by Submarine Boats." "The Trials of the 'Montcalm.'" 12th October.—"Promotion in the Navy." "Yachting Notes." "Water-tube Boilers." "The Mercantile Marine: French and Foreign." "Across the Channel by Submarine Boats" (*concluded*). "The English Board of Trade Atlantic Chart." 19th October.—"The Entry of Naval Officers." "Yachting Notes." "The Positions adopted for Guns in Modern War-ships." "The different Methods of Protection for the Merchant Navy." "The America Cup: Influence of the Shape of Hull on Speed." 26th October.—"The Russian Manœuvres." "Yachting Notes." "The America Cup: Influence of the Shape of Hull on Speed" (*continued*). "The Mercantile Marine: French and Foreign."

*Le Moniteur de la Flotte.* Paris: 5th October, 1901.—"From the Weser to the Vistula." "Brotherhood in Arms." "Explosion on board a Torpedo-boat." 12th October.—"A Victory of Gun over Armour." "The Defence of Corsica." 19th October.—"The English Destroyers." "The Naval Estimates and the Budget Commission." "The Balloon the 'Mediterranean.'" 26th October.—"The Law Governing the Mercantile Marine." "The New Regulations for the 'Inscription Maritime.'" "A Polar Submarine." "The Launch of the 'Léon Gambetta.'" "

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GERMANY.—*Marine Rundschau.* Berlin: November, 1901.—"De Buyter." "The English Manœuvres of 1901." "Some Remarks on the Questions of State and Civil Law in the Navy." "Report of the Commander of the 'Seeadler' on the Salvage of the Mail-Steamer 'München.'" "Notice of the Article in *Blackwood*, 'Recent Naval Progress.'" "The Russian Coast Territory in China." "Discussion on the following papers which appeared in the October Number: 1.—'The Indirect Methods of Naval War in the Struggle between England and the First French Empire.' 2.—'The Training-ship of the Future.'" "Foreign Naval Notes."

ITALY.—*Rivista Marittima.* Rome: October, 1901.—"Magellan's Discovery of the Straits which bear his name." "The Glasgow Exhibition." "Naval Hygiene in the 19th Century." Letters to the Director:—"Napoleon Buonaparte and Andrea Doria." "The Electrical Installation in Italian Ships." "The Working of Heavy Guns: Hydraulic or Electrical Energy." "Torpedo-boats or Torpedo-boat Catchers?" "Foreign Naval Notes."

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SPAIN.—*Revista General de Marina.* Madrid: November, 1901.—"Naval Episodes during the Chilian Revolution of 1891." "A Description of the Methods of Organising the Crews of Ships of War." "The New Austro-Hungarian Coast-Defence Battle-ship 'Habsburg.'" "The Cruiser 'Rio de la Plata' and her 10-centimetre Krupp Guns." "The Trans-Siberian Railway." "A Judicial Criticism of the English Naval Manœuvres of 1900." "The Comparative Trials of the English Cruisers 'Minerva' and 'Hyacinth.'" "Organisation of the Future Fleet." "Calculations of the Luminous Power of Lighthouses" (*continued*). "Some Remarks on the Boats used in Tunny Fishing." "The Norwegian Coast-Defence Battle-ship 'Norge.'" "Foreign Naval Notes."

UNITED STATES.—*Proceedings of the United States Naval Institute.* No. 3. Annapolis: September, 1901.—"The Coast in Warfare." "Ordnance and Armour." "Modern Armour: Its Influence on the Development of Ordnance." "Naval Reconnaissance in Time of Peace." "A New River Gun-boat." "Torpedo Operations in Naval Warfare."

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AUSTRIA-HUNGARY.—*Militär-Zeitung.* Vienna: 5th October, 1901.—"On the Training of Recruits." "The Portable Field Oven." "Return of the Austro-Hungarian



Squadron from Eastern Asia." "Columbia and Venezuela." 13th October.—"The Distress of Officers' Widows and Orphans." "Training of Recruits in Taking Proper Advantage of Ground." "The Field Gun Question." 21st October.—"Austro-Hungarian Seamen in China." "On the Re-organisation of our Infantry." "The Field Gun Question." "The Employment of Automobiles at the German Imperial Manœuvres." 29th October.—"The New Pension Regulation." "Military News." "The Change in the Presidency of Military Courts." "The Training of the English Army."

*Mittheilungen über Gegenstände des Artillerie- und Genie-Wesens.* Vienna: October, 1901.—"Duty of Troops in the Attack and Defence of Fortresses." "Influence of the Earth's Rotation on the Movement of Projectiles."

*Organ der Militär-wissenschaftlichen Vereine.* Vienna: Vol. LXIII., Part 3.—Has not yet been received.

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**FRANCE.**—*Revue du Cercle Militaire.* Paris: 5th October, 1901.—"French Expansion in Central Africa" (*continued*). "Venezuela and Columbia" (with sketch). "Cavalry on the Field of Battle—Its *Rôle* according to General von Pelet-Narbonne." 12th October—"Continental Armies." "Defensive Organisation of the Balearic Islands." "French Expansion in Central Africa" (4 sketches, *continued*). 19th October.—"French Expansion in Central Africa" (with map, *continued*). "The Austrian Army—Field Firing Operations." "The Russian Language in the French and German Armies." 26th October—"English Railways in the event of War." "French Expansion in Central Africa" (2 maps, *continued*). "The Siege of Sebastopol—The Assault on the 18th June, 1855." "The Netherlands Army—Autumn Manœuvres" (1 map).

*Le Spectateur Militaire.* Paris: 1st October, 1901.—"The Campaign of 1809" (1 sketch, *continued*). "The Ancient Corps of Marines" (*continued*). "Round Kita" (*continued*). "The Campaign of 1813" (*continued*). 15th October—"The Campaign of 1809" (1 sketch, *continued*). "The Ancient Corps of Marines" (*continued*). "Round Kita" (1 sketch, *continued*). "The Campaign of 1813" (*continued*).

*Revue d'Histoire.* Paris: October, 1901.—"The Campaign of 1793 in Alsace and in the Palatinate" (*continued*). "The War of 1870-71—The 5th of August in Lorraine" (*continued*).

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*Revue de Cavalerie.* Paris: October, 1901.—"Sabre and Carbine." "The Individual Instruction of the Cavalry Soldier for Field Service." "Lessons of the 16th August" (*continued*). "A Point in History—The Charge at Sedan." "Horse Breeding at Madagascar."

*Revue du Génie Militaire.* Paris: October, 1901.—"Reflections on the Ventilation of Inhabited Localities" (*concluded*). "The Theory of Ions and Electrons." "Analysis of and Extracts from Vauban's Correspondence" (*continued*). "Fortifications." "Barracks." "Construction." "Communications, etc." "Mines, etc."

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GERMANY.—*Militär-Wochenblatt.* Berlin: 2nd October, 1901.—"Judging Distance." "This Year's Grand Manœuvres in the St. Petersburg Military District." "Draft of a New Drill Regulation for the French Infantry" (*concluded*). 5th October.—"Judging Distance" (*continued*). "Horse Artillery Batteries of French Cavalry Divisions." 9th October.—"Combined Attack Manœuvres at Veszprem, in Hungary" (with sketch). "Judging Distance" (*continued*). "News from the French Army." "Motor-Cars and Street Locomotives at the Imperial Manœuvres." 12th October.—"Judging Distance" (*concluded*). "System of Maps in Roumania." "Soldiers' Wills in China." 16th October.—"The Unveiling of the Monument to His late Royal Highness Prince Albrecht of Prussia at Charlottenburg on 14th October, 1901." "The Imperial Manœuvres in West Prussia in 1901" (with 3 sketches). 19th October.—"Studies in the Conduct of War." "On the Training of the English Army." "The Summer Manœuvres (Hunting) of the Russian Officers' Cavalry School at Postawa, in the district of Vilna." 23rd October.—"In Memory of Colonel H. von Löbell, late of the Prussian Army." "The Head Quarter Staff of Marshal McMahon and the Douay Division from the 2nd to the 4th August, 1870." "Hints for Imparting Practical Instruction in Riding." "Theoretical and Practical Instruction of our Company Non-commissioned Officers." "Club for Retired Officers." "The British Army in 1800 and in 1900." 26th October.—"Lieut.-General von Lobenhoffer." "The Head Quarter Staff of Marshal McMahon and the Douay Division from the 2nd to the 4th August, 1870" (*concluded*). "The Army Medical Service in the Field." "Competitive Firing at the Russian Artillery School for Officers." 30th October.—"The French Grand Army Manœuvres of 1901." "The Boer War, 2nd Part" (*continued*). "A Field Firing Practice in England."

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ITALY.—*Revista di Artiglieria e Genio*. Rome: September, 1901.—“The Evolution of the Rifle during the Nineteenth Century.” “Formula for Fixing the Charge of Mines for the Destruction of Masonry, etc.” “Scale for Calculating the Charge Necessary in Field Guns to Reach Objects under Cover.” “Description of a Metal Bridge for an Advance Guard.” “Rule for Calculating Range-Finders.”

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SWITZERLAND.—*Revue Militaire Suisse*. Lausanne: October, 1901.—"At the French Eastern Grand Manœuvres." "The Guards Neuchâtel Rifle Battalion." "Krupp Q.F. 7.5-centimetre Guns, Model 1901." "Manœuvres in the Tête-Noire Mountain Ranges."

UNITED STATES.—*Journal of the United States Artillery*. Fort Monroe, Virginia: September-October, 1901.—"The Development of the Modern Field Artillery." "A Discussion of the Errors of Cylindro-Ogival Projectiles." "Notes on Rapid-fire Field Artillery." "Upon the Form of the Head of Oblong Projectiles which Encounters the Minimum Resistance to Motion from the Air." "Chat on Military History and the Art of War." "The Modern Battle and the Effect of New Weapons." "Infantry under German Artillery Fire." "Experiments in Illustration of Top-Motion of Rotating Oblong Projectiles." "Professional Notes." "Book Reviews."

## NOTICES OF BOOKS.

*A Leader of Light Horse: Hodson of Hodson's Horse*. By CAPTAIN LIONEL J. TROTTER. 8vo. 16s. London, 1901.

Among modern fighting men to whom history has surely accorded the tardiest of justice, the name of "Hodson of Hodson's Horse" must for ever stand out bold and prominent. That the great soldier who did so much to save our Indian Empire in its hour of peril should have suffered the dishonouring blow of dismissal from high command on a false accusation of peculation, is a great stain upon the Service for which he toiled so splendidly. And even in his heroic death the hand of the calumniator could not spare him, spitefully alleging that he had been killed while engaged in an act of "looting."

Hodson's most recent defender and biographer, Captain Lionel Trotter, has succeeded in finally clearing the great cavalry captain's name from the stain of these foul calumnies. We are for the first time enabled to plumb the depths of William Hodson's fine character, to realise how great at heart was the man of whom these vile things were said. "Dying as a brevet major in the pride of his strenuous manhood, he had already won for himself a proud place on the honour lists of our long island story."

It is the lot of many a great man to be remembered for one particular act of his career. Thus with Hodson it was his slaying of the infamous Delhi princes that will always stand to the credit of his name "in letters of gold on spotless white." Yet certain of his detractors have even dared to question whether this summary act of vengeance was justified by the facts. It will be recollected that Hodson shot the princes with his own hand in the vicinity of the royal tombs at Delhi, when he was accompanied by only a hundred sabres and was surrounded by a howling mob of several thousands of natives. It became a question as to whether he and his little band or the princes should suffer, and Hodson chose that the murderers should die the death. It has, indeed, been suggested that he might have adopted the alternative course of placing the prisoners under guard, with a threat to shoot them in the event of an attempt at rescue; but probably circumstances conspired to force his hand. In any case, the time was one of terrible retributive justice, and Europeans were little inclined to show mercy.

In his dual capacity of biographer and defender of the gallant Hodson, Captain Trotter has had access to various sources of information generally denied to the ordinary writer. Thus he is enabled to print *in extenso* the official report of Major Reynell Taylor in connection with the accusation that Hodson's regimental accounts would not bear inspection. This report not only absolutely exonerated Hodson, but furthermore proved that he had, under very great disadvantages, carried on the financial affairs of the Corps of Guides with credit and with honour to himself. This favourable finding, however, came too late to save the leader of the Guides from the odium of being relieved from his command with such a terrible charge hanging over his head. It may be doubted whether in all history there is a more flagrant case of an utterly unfounded charge ruining a man's career, or at all events casting over it a shadow never wholly to be cleared away. Major Taylor's report had the further effect of showing beyond a doubt that at the time Hodson assumed command of the regiment its accounts were in a decidedly "difficult" condition. Reynell Taylor, it may be noted was known as "the Bayard of the Punjab," and in every way was the fittest possible man to be entrusted with the preparation of such a report as Hodson asked for, and which was so tardily granted. Hodson himself was struck to the heart by the bitter blow, from which he never really recovered. His love for his devoted wife comes out very strongly in his correspondence belonging to this period.

The immediate sequel to all this suffering was Hodson's appointment to the Staff on the breaking out of the great Mutiny. His magnificent services, up to and including the siege of Delhi, must for ever live in Indian history. They terminated with his death in action—and this is the second great point on which the bitter tongue of the calumniator has refused to let him rest in peace. On the absurd and wicked charge that he met his death while engaged in looting, no less an authority than Lord Roberts has written:—"Hodson was sitting with Donald Stewart in the headquarters camp when the signal-gun announced that the attack on the Begam Kotli was about to begin. Hodson immediately mounted his horse and rode off in the direction of the city. Stewart, who had been ordered by the Commander-in-Chief to accompany the troops and send an early report to His Excellency of the result of the assault, had his horse ready and followed Hodson so closely that he kept him in sight until within a short distance of the fighting, when Stewart stopped to speak to the officer in charge of Peel's guns. . . . This delayed Stewart for a few minutes only, and as he rode into the courtyard of the palace a Highland soldier handed him a pistol, saying, 'This is your pistol, sir; but I thought you were carried away mortally wounded a short time ago.' Stewart at once concluded that the man had mistaken him for Hodson. In face they were not much alike, but both were tall, well made, and fair, and native soldiers had frequently saluted one for the other. It is clear from this account that Hodson could not have been looting, as he was wounded almost as soon as he reached the palace."

Certain it is that Hodson's few poor personal effects—the whole of which, at an auction after his death, were sold for something less than £170—bore very little resemblance to "loot." Yet even this fact was met by the preposterous falsehood that his trunks had been "carefully rifled" before being handed over. "The inventory of his effects," says his comrade, Sir Charles Gough, "bears witness to the fact that he had no loot of any kind in his possession." It is difficult to imagine a persecution quite so vindictive or quite so misplaced as that by which Hodson was so relentlessly pursued.

Captain Trotter quotes a saying uttered in reply to the oft-asked question as to why Hodson never received the Victoria Cross: "I suppose it was because he won it every day of his life." Never did he more clearly establish his claim to it than by his seizure and shooting of the Delhi princes or shahzādas on that memorable 22nd September, 1857. In this connection it is related that General Wilson had asked Hodson on no account to bring them in even if he did succeed in capturing them, as he (Wilson) would not know what to do with more prisoners. Accordingly, Hodson did *not* bring them in, though, as we have seen, not for the reason stated by General Wilson. He preferred to shoot them with his own hand.

It has been said of him that the only occasion in his Army career when he was seen to be at all perturbed, was on discovering that his taking of the King of Delhi

and killing of his sons was made in some quarters a subject of reproach. For he was by nature and temperament buoyant and sunny, while his fine character also possessed a very distinct trace of the indefinable quality known as "magnetism." His men were well content to follow him to death, and this sentiment has been finely expressed in some lines written long ago by Sir Mortimer Durand:—

"I rode to Delhi with Hodson : there were three of my father's sons ;  
Two of them died at the foot of the Ridge, in the line of the Mori's guns.  
I followed him on when the great town fell ; he was cruel and cold they said ;  
The men were sobbing around me the day that I saw him dead.  
It is not soft words that a soldier wants ; we know what he was in fight,  
And we love the man that can lead us, ay, though his face be white.

\* \* \* \* \*

And when the time shall come, sahib, as come full well it may,  
When all things are not fair and bright, as all things seem to-day ;  
When foes are rising round you fast, and friends are few and cold,  
And half a yard of trusty steel is worth a prince's gold,  
Remember Hodson trusted us, and trust the old blood too,  
And as we followed him—to death—our sons will follow you."

These words worthily express the feelings of the Sikh troopers who rode after Hodson into Delhi and beyond. As for "cruel and cold," he was the very antithesis of all this, his bright manner and beautiful disposition being admired and commented on wherever he went. His narrow escapes in battle were too "narrow" and too frequent for enumeration here. On one occasion a "rascally Pandy" dealt him so fierce a blow with his tulwar that both boot and stocking were cut through ; but that Pandy did not live to tell the tale ! Hodson was wounded many times, but seemed always to bear an absolutely charmed life until the fatal day he received his death wound.

This singularly gifted man had another side to his character, the literary side. His letters to his wife were perfect models of style, particularly in their descriptions of natural scenery. If he had not been a soldier, what a war correspondent he would have made ! This is the reflection that comes to mind again and again as we read his letters home—"home" in his case spelling the beloved wife and the child whose death was such a bitter blow to its father. William Hodson did his duty under difficulties that would have killed the heart of an ordinary man. One wonders whether he was not, to a certain extent, buoyed up by the deep affection and esteem in which he was held by his troopers. Sir Hugh Gough, in his reminiscences, makes one of the Sikhs say to him, "Mán Singh, there is to be a great battle to-morrow, and we are going to take Delhi. Hodson says he will ride to Jehannum after the Pandies. I wonder how it will end." I said to Gough Sahib, "Well, sahib, wherever Hodson goes, we'll all go." Wherever his sabre flashed the men felt themselves bound to follow. The chivalrous John Nicholson fell at the storming of Delhi, Hodson not until several months afterwards. He was one of the few who always did Hodson justice. Another was brave old Sir Colin Campbell, who cried like rain as he stood by Hodson's graveside.

Captain Trotter is deserving of all credit for his good work in clearing the name of this great soldier from reproach. More than this, he often brings out very admirably and beautifully the influence of his hero's personal magnetism upon the minds of his followers, and he quotes the following from a lady visitor's account of what she witnessed at Hodson's bungalow :—"When at Umbála on ten days' leave, in November last [1857, during the great Mutiny], the wounded and convalescent Guides were all day straying into the compound simply to salaam the sahib. And if, when lingering on the steps or in front of the study door, they were questioned what they wanted, their answer would be, 'Nothing ; they like to look at the sahib.' And so they hung about his steps, and watched like so many faithful dogs. Especially, there was an Afghan boy (he had once been a slave) whose very soul seemed bound up in the master who had rescued him from his degraded position, and for whom every



service seemed light. He would watch his master's movements with a look of very worship, as if the ground were not good enough for him to tread."

It is a curiously instructive fact that Hodson, despite the number and distinction of his services to the State, died only with the rank of Major. He was at once the most luckless and most fortunate of men. And he was one of the greatest soldiers of his time.

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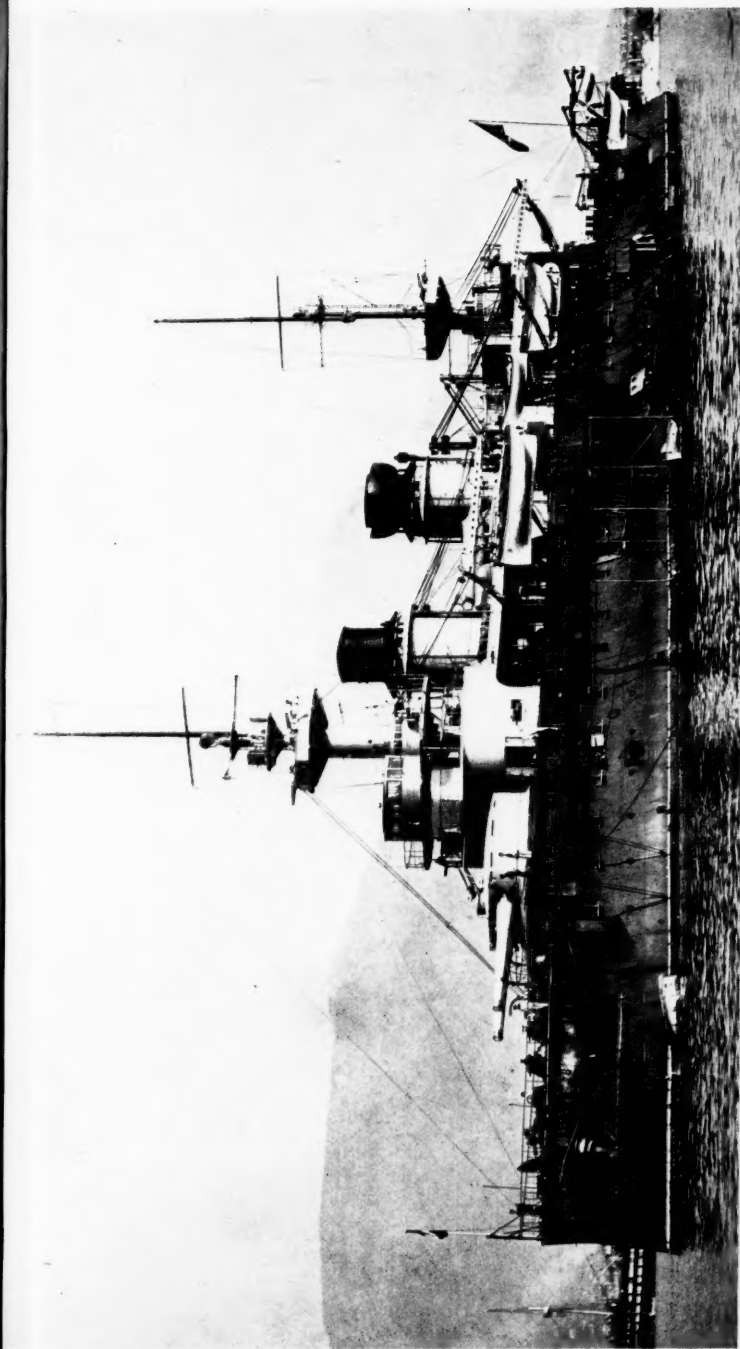
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